

ELEMENTARY PRINCIPLES

CONNECTED WITH THE

ART OF WAR,

BEING

INSTRUCTIONS FOR THE CARE OF MINOR ORGANIZA-
TIONS IN TIME OF PEACE OR WAR.

DESIGNED FOR THE USE OF MILITARY COLLEGES, NATIONAL
GUARDSMEN AND VOLUNTEERS.

BY

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TO
GENERAL RICHARD COULTER DRUM,
Adjutant General of the United States Army,

I DEDICATE THIS WORK,

As a Slight Tribute of the Admiration and Esteem in which he is held by the young Officers
of the Army, and the National Guard of the Several States;

WHO, SINCE HE HAS BEEN AT THE HEAD OF THE MOST RESPONSIBLE BUREAU

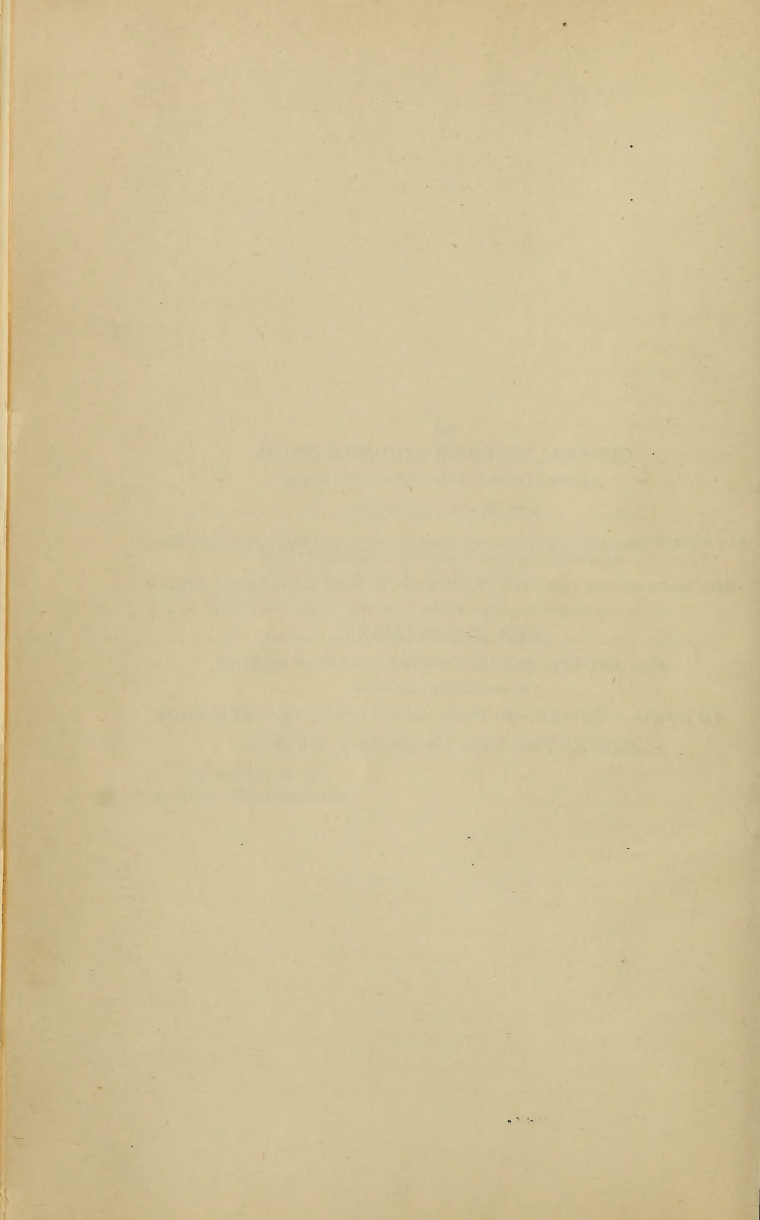
OF THE

WAR DEPARTMENT,
HAS PROVED HIMSELF THEIR EARNEST FRIEND,

BY HIS PATRIOTIC ENDEAVOR

TO INFUSE A BETTER AND MORE GENERAL MILITARY EDUCATION
AMONG THE YOUTH OF THE NATION.

W. R. HAMILTON,
1st Lieutenant 5th Artillery.



PREFACE.

THE object of this work is to present in compact shape, and plain and untechnical language, the matter that military students are obliged, otherwise, to study and search through many volumes for. The National Guard of the United States is anxious to know all it can reasonably learn of military matters, beyond the elementary drills and tactics, but the great array of books and authorities on different subjects is so appalling, that it cannot afford the time or money to learn from them.

This work is only a compilation; the author claims for it nothing original except the manner of presenting the various subjects so that the untechnical reader may understand and learn the elementary principles of the greatest of all sciences. In presenting the work, he gladly avails himself of the opportunity to acknowledge the assistance he has had, and return thanks accordingly.

To Major Generals Howard, Schofield, Pope, Generals McCook and Morrow, U. S. Army, who took the trouble to examine the work and recommend it, to Major M. P. Miller, 5th Artillery, and late Senior Instructor of Tactics of the U. S. Military Academy, for valuable assistance in the chapter on the company and battalion; to Lieut. S. E. Allen, late Inspector of Rifle Practice, Division of the Atlantic, for assistance in the chapter on Rifle and Carbine Practice; to Lieut. H. C. Carbaugh, for valuable assistance in the chapter on Military Law and Courts-Martial; to Capts. Chester, 3d Artillery, and Calef, 2d Artillery, and Lieut. L. Y. V. Kennon, 6th Infantry, for the use of their valuable works on Military Roads and Bridges, Machine Guns, and Guards and Guard Duty, respectively; and to many others.

The work was first undertaken in conjunction with Captain W. H. Powell, 4th Infantry; but he withdrawing, every chapter has been revised and corrected by competent authority, until it is now ready to stand that only thorough test—Public Opinion.

Governor's Island, N. Y., Jan. 10, 1887.

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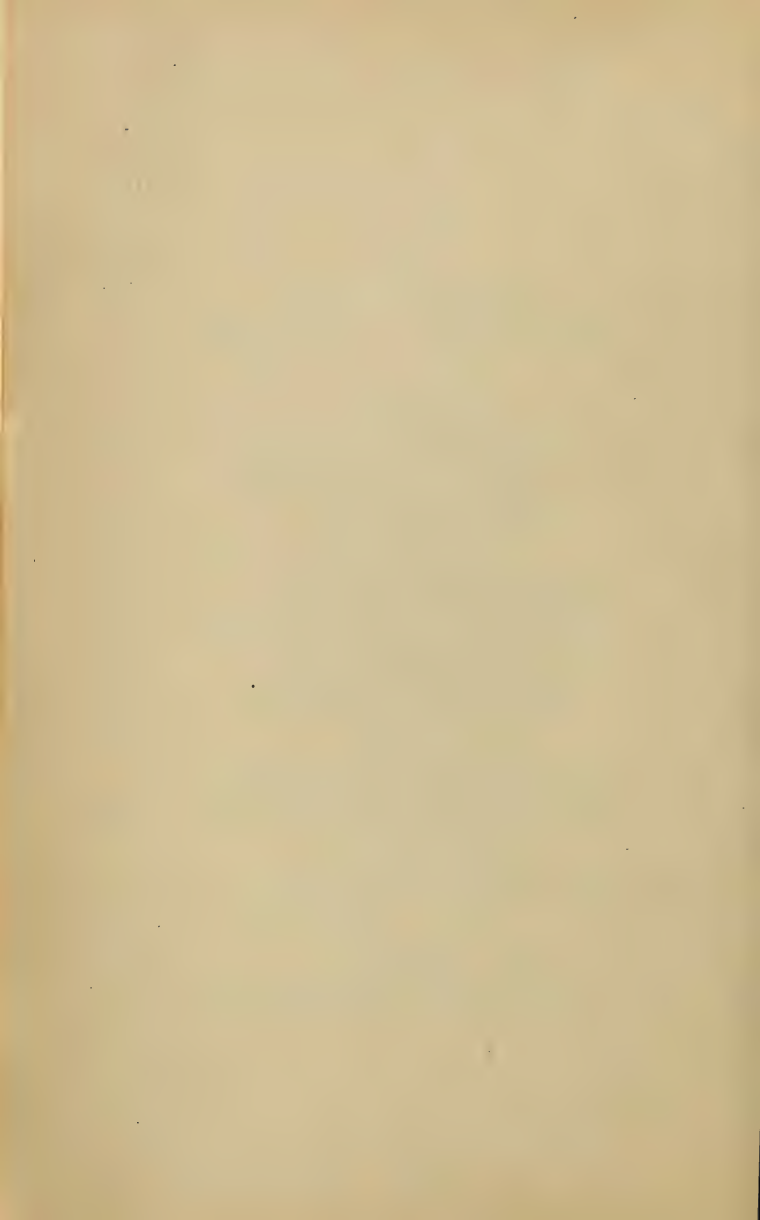
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CHAPTER I.

COMPOSITION OF AN ARMY.

UNITED STATES MILITARY ACADEMY

MILITARY COLLEGES.



COMPOSITION OF AN ARMY.

AN Army is a large body of men, organized, armed and disciplined under military methods and rules, for the protection of a Government against its enemies, enforcing its laws at home, and its demands abroad—in short, for maintaining its national sovereignty and life.

Military Science is the science of organizing, arming, and maintaining armies.

The **Art of War** consists in handling and directing an army so as to successfully accomplish whatever its commanders may undertake.

An army is not merely a large body of men armed and equipped with military weapons. It must be so constituted that all in it act for the attainment of a common object, and at the same time be subservient to a single will—that of its commander. A mob may be armed and equipped with military weapons, but its force is lost in its lack of organization and discipline.

In all armies there are two general classes of men, viz : First, those who exercise a certain authority over others, by virtue of a commission issued to them by the Government. They are termed **Officers**. Second, those who exercise no authority except such as is given them by an immediate commissioned officer, but who execute the orders of the officers. They are called in general **Privates** or **Soldiers**. If they have given them, by proper officers, the right to exercise a limited authority, they are called **non-commissioned officers**. Their authority is held by virtue of a **Warrant**. In general all composing an army are **Soldiers**, but the term **Officers** is never applied to any but those who hold a commission, and the term **Private** is never applied to the non-commissioned officer, while the term **Soldier** is usually applied only to privates.

The officer holds his position at the discretion of the Government for life, and in the U. S. Army cannot, in time of peace, be deprived of his commission except by

act of Congress; or by sentence of a General Court Martial, approved by the President of the United States.

The private and the non-commissioned officer are only such for a limited number of years.

There are two grand divisions of officers and soldiers alike, in all armies: First, those who do the active work, such as marching, fighting and campaigning, and Second, those who clothe, feed, look after the health, the arms, the transportation—in short, the entire well-being of the army. The first of these is termed the **Line**, and the second the **Staff**.

The composition of armies and their numbers is established by governments, and regulated by the necessities in time of peace or war. This composition should be of such a nature, however, that the army may be increased from its peace organization to a strength suitable for war. This is termed **mobilization**.

The **line** of the army is divided into three general classes, viz: **Artillery**, **Cavalry** and **Infantry**. They are termed "arms of service."

The **Infantry** is the arm of service that marches and fights on foot. It forms the greatest part of all armies.

The **Cavalry** is the arm of service that fights and marches on horseback, and forms a very important factor in the composition of all armies. It is used for scouting, making reconnoissances, searching for and harassing the enemy, and in the event of general engagements, is employed in protecting the flanks and rear of the army engaged, as well as in pursuing a retreating foe.

The **Artillery** is the arm of service that fights and manœuvres with cannon,—in the forts with stationary guns; and in the field with guns mounted on light carriages, attached to what are called limbers, to enable them to be drawn by horses.

The **Engineers** march on foot, and is that arm of service that makes and prepares the road over which an army marches, builds bridges, tears down houses, walls, etc., marks out the lines for temporary earthworks; in short clears the way for the army to march, as well as prepares

for its defence ; this branch of the service has been decided to belong to the staff departments.

For the purpose of directing all the movements of an army and obtaining a perfect command over it, an army is sub-divided into a number of minor classes or sub-divisions. These sub-divisions vary in strength according as they are maintained on a peace or a war footing.

The smallest constant fundamental unit in all armies is called the **Company**.

The company consists of a given number of privates and non-commissioned officers, one commissioned officer who commands it and is termed the **Captain**, and two, three or four commissioned officers termed **Lieutenants**, who assist the captain in the discharge of his duties. The non-commissioned officers consist of the **First Sergeant**, **Duty Sergeants** and **Corporals**, and their duties consist in seeing that the orders of the commissioned officers are executed in the company, regarding the welfare and instruction of the privates in all that pertains to military matters. A company is sub-divided into two equal parts, each of which should be under the special charge of a lieutenant. These sub-divisions are termed **Platoons**.

The term company is properly applied only to the unit of organization of Engineers and Infantry. In Artillery this unit is termed a **Battery**, and in Cavalry a **Troop**. Company is also used as a general term for the unit of all arms of the service.

In time of peace companies are maintained only up to a strength sufficient to keep up the organization and instruct soldiers properly. In time of war the company is enlarged to any given consistent strength. The maximum size of a company must not be greater than one man on foot can thoroughly command.

Two or more companies under one command form a **Battalion**, which is commanded by a **Major**; and for tactical instruction it is the tactical unit. On a peace footing the number of companies in a battalion may be increased to eight, for the purpose of instruction; but in time of war it should never be more than four, as that number is con-

sidered the maximum number over which one person in command can make his voice heard by all.

When two or more battalions are organized under one commander they form a **Regiment**, and its commander is termed a **Colonel**. The regiment is the largest permanent organization in all armies, and is formed for the purposes of administration.

The Colonel is assisted in the discharge of his duties by a **Lieutenant Colonel** and one or more **Majors**, as well as two Lieutenants termed **Adjutant** and **Quartermaster**. All these officers combined are known as the **Field and Staff** of a Regiment.

The different regiments in an army are numbered as 1st Infantry, 2d Infantry, 5th Cavalry, etc., and the companies of the same regiment are known by letter, as company "A" 1st Infantry, Troop "C" 3d Cavalry, Battery "H" 3d Artillery, and so on.

When two or more regiments are organized under one command, they form a **Brigade**, and their commander is a **Brigadier General**. Two or more brigades constitute a **Division**, the commander of which is a **Major General**. Two or more divisions joined together under one command form an **Army Corps**, the proper commander of which is a **Lieutenant General**.

The entire army is under the command of a **General** or **General-in-Chief**.

In all bodies of troops larger than regiments there may be all arms of the service combined; but regiments and smaller military bodies are always of the same arm of the service throughout. The proportion in which the various arms of the service are combined in any army varies according to the nature of the country and character of the enemy; but the general rule is as follows: The mass of the army is infantry; the cavalry amounts to about one-fifth of the infantry, and the artillery should have three cannon (and the men to serve them) for every one thousand men of the army. There should be one or two companies of engineers to each division.

In time of peace, troops are not kept together in larger

bodies than regiments, unless occasion requires them to be called together for certain purposes, but are posted or quartered in various parts of the country. The country is divided into sub-divisions called **Military Districts**. Two or more of these form a **Military Department**, and two or more departments constitute a **Military Division**. Each of these various sub-divisions is commanded by a General corresponding in rank to the extent and importance of the country embraced in its limits.

We have previously spoken of two general classes into which armies are divided—that is the **Line** and **Staff**. In all bodies of soldiers there are those who must look out for and supply the wants of those who do the fighting. They are called the **Staff**, and their duties are to feed and clothe the Army, provide transportation for it and its armament, ammunition, and stores of all kinds; pay the soldiers, house them, look after their health, make inspections of the various parts of the Army for the information of the General commanding, carry the General's orders, and keep all the records of the Army. Their duties will be further explained in another chapter. They are the assistants of the General, as without their aid he would have more to do than he could attend to. The following table shows the organization of the United States Army, exclusive of the Militia, which will be spoken of in another chapter:

Organization of the Army

CORPS.		General.	Lieutenant General.	Major Generals.	Brigadier Generals.	Adjutant General.	Asst. Adj't Generals (Colonel).	Asst. Adj't Generals (Lieut. Col.).	Asst. Adj't Generals (Major).	Senior Inspector General.
1	General Officers	0	1	3	6	.	.	.	.	.
2	Military Secretary to the Lieutenant General . . . . .	.	.	.	.	.	.	.	.	.
3	Aides-de-Camp to General Officers . . . . .	.	.	.	.	.	.	.	.	.
4	Adjutant General's Department . . . . .	.	.	.	.	1	.	4	8	.
5	Inspector General's Department . . . . .	.	.	.	.	.	.	.	.	.
6	Bureau of Military Justice . . . . .	.	.	.	.	.	.	.	.	.
7	Quartermaster's Department . . . . .	.	.	.	.	.	.	.	.	.
8	Subsistence Department . . . . .	.	.	.	.	.	.	.	.	.
9	Medical Department . . . . .	.	.	.	.	.	.	.	.	.
10	Pay Department . . . . .	.	.	.	.	.	.	.	.	.
11	Corps of Engineers . . . . .	.	.	.	.	.	.	.	.	.
12	Ordnance Department . . . . .	.	.	.	.	.	.	.	.	.
13	Signal Corps . . . . .	.	.	.	.	.	.	.	.	.
14	Post Chaplains . . . . .	.	.	.	.	.	.	.	.	.
15	Ten Regiments of Cavalry . . . . .	.	.	.	.	.	.	.	.	.
16	Five Regiments of Artillery . . . . .	.	.	.	.	.	.	.	.	.
17	Twenty-five Regiments of Infantry . . . . .	.	.	.	.	.	.	.	.	.
18	Military Academy . . . . .	.	.	.	.	.	.	.	.	.
19	Non-commissioned staff unattached to regiments . . . . .	.	.	.	.	.	.	.	.	.
20	Enlisted men unattached to regiments . . . . .	.	.	.	.	.	.	.	.	.
21	Indian scouts . . . . .	.	.	.	.	.	.	.	.	.
22	Grand aggregate	1	1	3	6	1	4	4	8	1
23	Retired Officers . . . . .	.	.	.	.	.	.	.	.	.

(*) The acts of June 23, 1874, March 3, 1875, and June 26, 1876, reorganizing the staff corps, provide "that no officer now in service shall be reduced in rank or mustered out by reason of any provisions of law therein made reducing the number of officers in any department or corps of the Army." There are now in service, in ex-

of the United States.

	Inspector Generals (Colonel).	Asst. Inspector Generals (Lieutenant Colonel).	Asst. Inspector Generals (Major).	Judge Advocate General.	Judge Advocates (Major).	Quartermaster General.	Assistant Quartermaster Generals (Colonel).	Deputy Quartermaster Generals (Lieutenant Colonel).	Quartermasters (Major).	Asst. Quartermasters (Captain).	Commissary General of Subsistence.	Asst. Com. Gens. of Subsistence (Colonel).	Asst. Com. Gens. of Subsistence (Lieutenant Colonel).	Commissaries of Subsistence (Major).	Commissaries of Subsistence (Captain).	Surgeon General.	Asst. Surgeon General (Colonel).	Chief Medical Purveyor (Colonel).	Surgeons (Colonel).	Surgeons (Lieutenant Colonel).	Asst. Medical Purveyors (Lieutenant Colonel).
1																					
2																					
3																					
4																					
5	2	2	2																		
6																					
7				1																	
8					4	1	4	8	14	30	1	2	3	8	12						
9																1	1	1	4	8	
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22	2	2	2	1	4	1	4	8	14	30	1	2	3	8	12	1	1	1	4	8	2
23																					

cess of the number allowed by these acts, *three* Inspectors General, Colonels; *four* Judge Advocates, Majors; *seven* Storekeepers, Captains, in the Quartermaster's Department; *four* Medical Storekeepers, Captains, in the Medical Department, and *ten* Ordnance Storekeepers, Captains.

Organization of the Army of

CORPS.		Surgeons (Major).	Assistant Surgeons (Captain).	Assistant Surgeons (First Lieut.).	Paymaster General.	Asst. Paymaster Generals (Col.).	Deputy Paymaster Generals (Lieutenant Colonel).	Paymasters (Major).	Chief of Engineers.	Chief of Ordnance.
1	General Officers . . . . .	.	.	.	.	.	.	.	.	.
2	Military Secretary to the Lieutenant General . . .	.	.	.	.	.	.	.	.	.
3	Aides-de-Camp to General Officers . . . . .	.	.	.	.	.	.	.	.	.
4	Adjutant General's Department . . . . .	.	.	.	.	.	.	.	.	.
5	Inspector General's Department . . . . .	.	.	.	.	.	.	.	.	.
6	Bureau of Military Justice . . . . .	.	.	.	.	.	.	.	.	.
7	Quartermaster's Department . . . . .	.	.	.	.	.	.	.	.	.
8	Subsistence Department . . . . .	.	.	.	.	.	.	.	.	.
9	Medical Department	50	84	^b 41	.	.	.	.	.	.
10	Pay Department . . . . .	.	.	.	1	2	2	50	.	.
11	Corps of Engineers . . . . .	.	.	.	.	.	.	.	1	.
12	Ordnance Department . . . . .	.	.	.	.	.	.	.	.	1
13	Signal Corps . . . . .	.	.	.	.	.	.	.	.	.
14	Post Chaplains . . . . .	.	.	.	.	.	.	.	.	.
15	Ten Regiments of Cavalry . . . . .	.	.	.	.	.	.	.	.	.
16	Five Regiments of Artillery . . . . .	.	.	.	.	.	.	.	.	.
17	Twenty-five Regiments of Infantry . . . . .	.	.	.	.	.	.	.	.	.
18	Military Academy . . . . .	.	.	.	.	.	.	.	.	.
19	Non-commissioned staff unattached to regiments .	.	.	.	.	.	.	.	.	.
20	Enlisted men unattached to regiments . . . . .	.	.	.	.	.	.	.	.	.
21	Indian scouts . . . . .	.	.	.	.	.	.	.	.	.
22	Grand aggregate	50	84	^b 41	1	2	2	50	1	1
23	Retired Officers . . . . .	.	.	.	.	.	.	.	.	.

(b) Assistant Surgeons have the rank, pay, and emoluments of First Lieutenant of Cavalry for the first *five* years' service, and the rank, pay, and emoluments of the grade of Captain after *five* years' service. [Sec. 4, act June 23, 1874.]

(c) The *six* Aides-de-Camp (Colonels) to the General; the *two* (Lieutenant Colonels) to the Lieutenant General; the *twenty-eight* (Captains or Lieutenants) to the Major Generals and Brigadier Generals, making in all *thirty-six* Aides-de-Camp, and also the Military Secretary (Lieutenant Colonel) to the Lieutenant General, being taken from the corps or regiments, in the strength of which they are included, are, to avoid counting them *twice*, excluded, as *Aides* and *Military Secretary*, from the columns "total commissioned" and "aggregate."

(d) By section 9 of the act of March 3, 1853, a Lieutenant of Engineers and Ordnance, having served fourteen years continuously as Lieutenant, is entitled to promotion to the rank of Captain; but such promotion is not to increase the whole number of officers in either of said corps.

(e) The Adjutant and Quartermaster allowed to the battalion of engineers not being

the United States—Continued.

	Chief Signal Officer.	Colonels.	Lieutenant Colonels.	Majors.	Captains.	Aides-de-Camp.	Regimental Adjutants (Extra Lieutenants).	Regimental Quartermasters (Extra Lieutenants).	Battalion Adjutant.	Battalion Quartermaster.	First Lieutenants.	Second Lieutenants.	Additional Second Lieutenants.	Chaplains.	Military Storekeepers.	Ordnance Storekeepers.	Medical Storekeepers.	Sergeant Majors.	Quartermaster Sergeants.	Chief Musicians.
1
2
3
4
5
6
7
8
9
10
11	.	6	12	24	d ₃₀	.	.	.	e ₁	e ₁	26	10	.	.	.	.	.	.	.	.
12	.	3	4	10	d ₂₀	.	.	.	.	.	16	.	.	.	.	a & i	.	.	.	.
13	1	.	.	.	.	.	.	.	.	.	.	f ₄	.	.	.	.	.	.	.	.
14	h ₃₀	.	.	.	.	.	.
15	.	10	10	30	120	.	10	10	.	.	120	120	.	h ₂	.	.	.	10	10	10
16	.	5	5	15	60	.	5	5	.	.	120	65	.	.	.	.	.	5	5	5
17	.	25	25	25	250	.	25	25	.	.	250	250	.	h ₂	.	.	.	25	25	25
18
19
20
21
22	1	49	57	104	480	e ₃₆	40	40	e ₁	e ₁	532	449	(g)	h ₃₄	a & i	a & i	a & i	40	40	40
23

supernumerary officers, but being included in the strength of the corps to which they belong, are, to avoid counting them *twice*, excluded, as battalion staff officers, from the columns "total commissioned" and "aggregate" of their department.

(f) The act of June 20, 1878, provides that "two [signal] sergeants may, each year, be appointed to be Second Lieutenants."

(g) Under the 4th section of the act of April 29, 1812, as modified by section 19 of the act of July 15, 1870, one additional Second Lieutenant (*who shall be a graduate of the Military Academy*) is allowed to each company. The number authorized is consequently *four hundred and thirty-five*.

(h) The Chaplains of the colored regiments (four), authorized by the act of July 28, 1866, and the Post Chaplains (thirty), authorized by the act of March 2, 1849, rank as Captains of Infantry. [Sec. 7, act March 2, 1867.]

(i) The Ordnance Storekeeper and Paymaster of the National Armory at Springfield has the rank, pay, and emoluments of Major of Cavalry. and all other Storekeepers have the rank, pay, and emoluments of Captains of Cavalry. [Sec. 7, act March 2, 1867.]

Organization of the Army of

CORPS.		Principal Musicians.	Saddler Sergeants.	Chief Trumpeters.	Ordnance Sergeants.	Commissary Sergeants.	Hospital Stewards.	Battalion Sergeant Major.	Battalion Quartermaster Sergeant	First Sergeants.
1	General Officers . . . . .	.	.	.	.	.	.	.	.	.
2	Military Secretary to the Lieutenant General . . . . .	.	.	.	.	.	.	.	.	.
3	Aides-de-Camp to General Officers . . . . .	.	.	.	.	.	.	.	.	.
4	Adjutant General's Department . . . . .	.	.	.	.	.	.	.	.	.
5	Inspector General's Department . . . . .	.	.	.	.	.	.	.	.	.
6	Bureau of Military Justice . . . . .	.	.	.	.	.	.	.	.	.
7	Quartermaster's Department . . . . .	.	.	.	.	.	.	.	.	.
8	Subsistence Department . . . . .	.	.	.	.	.	.	.	.	.
9	Medical Department . . . . .	.	.	.	.	.	186	.	.	.
10	Pay Department . . . . .	.	.	.	.	.	.	1	1	.
11	Corps of Engineers . . . . .	.	.	.	.	.	.	.	.	.
12	Ordnance Department . . . . .	.	.	.	.	.	.	.	.	.
13	Signal Corps . . . . .	.	.	.	.	.	.	.	.	.
14	Post Chaplains . . . . .	.	.	.	.	.	.	.	.	.
15	Ten Regiments of Cavalry . . . . .	.	10	10	.	.	.	.	.	120
16	Five Regiments of Artillery	10	.	.	.	.	.	.	.	60
17	Twenty-five Regiments of Infantry	50	.	.	.	.	.	.	.	250
18	Military Academy . . . . .	.	.	.	.	.	.	.	.	.
19	Non-commissioned staff unattached to regiments . . . . .	.	.	114	148	.	.	.	.	.
20	Enlisted men unattached to regiments . . . . .	.	.	.	.	.	.	.	.	.
21	Indian scouts . . . . .	.	.	.	.	.	.	.	.	.
22	Grand aggregate	60	10	10	114	148	186	1	1	430
23	Retired Officers . . . . .	.	.	.	.	.	.	.	.	.

(k) By the act of March 3, 1873, the Secretary of War is authorized to select from the Sergeants of the line of the Army, who shall have faithfully served therein *five* years, *three* years of which in the grade of non-commissioned officer, as many Commissary Sergeants as the service may require, not to exceed one for each military post or place of deposit of subsistence supplies.

(l) The act of June 23, 1879, making appropriations for the support of the Army for the year ending June 30, 1880, provides that no money appropriated by that act shall be paid for recruiting the Army beyond the number of 25,000 enlisted men, including Indian scouts and Hospital Stewards, and excepting the Signal Service. The signal detachment is therefore excluded from the aggregate of "total enlisted."

the United States—Continued.

	Sergeants.	Corporals.	Trumpeters.	Musicians.	Farriers and Blacksmiths.	Artificers.	Saddlers.	Wagoners.	Privates, 1st class.	Privates, 2d class.	Privates.	Total commissioned.	Total enlisted.	Professors.	MILITARY ACADEMY. Cadets.	Aggregate.
1	.	.	.	.	.	.	.	.	.	.	.	11	.	.	.	11
2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	17	.	.	.	17
5	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	5
6	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	5
7	.	.	.	.	.	.	.	.	.	.	.	57	.	.	.	57
8	.	.	.	.	.	.	.	.	.	.	.	26	.	.	.	26
9	.	.	.	.	.	.	.	.	.	.	.	192	186	.	.	378
10	.	.	.	.	.	.	.	.	.	.	.	55	.	.	.	55
11	20	16	.	8	.	.	.	.	80	74	.	109	200	.	.	369
12	40	80	.	.	.	.	.	.	150	130	.	54	400	.	.	454
13	150	30	.	.	.	.	.	.	.	.	320	5	1500	.	.	505
14	.	.	.	.	.	.	.	.	.	.	.	30	.	.	.	30
15	600	480	240	.	240	.	120	120	.	.	6,000	432	7,970	.	.	8,402
16	250	240	.	120	.	120	.	60	.	.	1,750	280	2,625	.	.	2,905
17	1000	1000	.	500	.	500	.	250	.	.	9,000	877	12,625	.	.	13,502
18	.	.	.	.	.	.	.	.	.	.	.	.	.	9	312	321
19	.	.	.	.	.	.	.	.	.	.	.	.	262	.	.	262
20	.	.	.	.	.	.	.	.	.	.	432	.	432	.	.	432
21	.	.	.	.	.	.	.	.	.	.	300	.	300	.	.	300
22	2060	1846	240	628	240	620	120	430	230	204	17,802	2155	125,000	9	312	27,976
23	.	.	.	.	.	.	.	.	.	.	.	400	.	.	.	400

One Veterinary Surgeon, with the pay of seventy-five dollars per month, is allowed to each of the cavalry regiments, and to each of the Seventh, Eighth, Ninth, and Tenth Regiments an additional Veterinary Surgeon, at one hundred dollars per month, is allowed. These Veterinary Surgeons are not included in the organization table.

Indian scouts to the number of one thousand may be employed in the Territories and Indian country, who shall receive the pay and allowance of cavalry soldiers. [Sec. 6, act July 28, 1866.]

Company Quartermaster Sergeants in any branch of the service are no longer allowed, they not being enumerated in the act of March 15, 1872, and therefore not entitled to its benefits. [G. O. 51, series of 1872.]

Organization of Regi-

		Colonel.	Lieutenant Colonel.	Majors.	Adjutant (Extra Lieutenant).	Regimental Quartermaster (Extra Lieutenant).	Battalion Adjutant.	Battalion Quartermaster.	Captains.	First Lieutenants.	Second Lieutenants.	Chaplain.	Sergeant Major.	Quartermaster Sergeant.
1	Ten Regiments of Cavalry—each	1	1	3	1	1	.	.	12	12	12	*1	1	1
2	Company of Cavalry . . . . .	.	.	.	.	.	.	.	1	1	1	.	.	.
3	Five Regiments of Artillery—each	1	1	3	1	1	.	.	12	24	13	.	1	1
4	Light Battery of Artillery . . . . .	.	.	.	.	.	.	.	1	2	2	.	.	.
5	Battery of Artillery . . . . .	.	.	.	.	.	.	.	1	2	1	.	.	.
6	Twenty-five Regiments of Infantry—each	1	1	1	1	1	.	.	10	10	10	*1	1	1
7	Company of Infantry . . . . .	.	.	.	.	.	.	.	1	1	1	.	.	.
8	Engineer Battalion . . . . .	.	1	.	.	.	†1	†1	5	5	5	.	.	.
9	Two Companies—each . . . . .	.	.	.	.	.	1	1	1	1	1	.	.	.
10	Two Companies—each . . . . .	.	.	.	.	.	.	.	1	1	1	.	.	.

* See Note (b) on general organization table.

Regimental commanders will not in future date the rank or appointment of regimental staff officers back of the date on which such appointment was actually made; and hereafter such appointees (regimental quartermasters having been first duly approved by the Secretary of War) will be paid in their new positions from the date of

ments and Companies.

	Chief Musician.	Principal Musicians.	Saddler Sergeant.	Chief Trumpeter.	Battalion Sergeant Major.	Battalion Quartermaster Sergeant.	First Sergeants.	Sergeants.	Corporals.	Trumpeters.	Musicians.	Farriers and Blacksmiths.	Artificers.	Saddlers.	Wagoners.	Privates, 1st class.	Privates, 2d class.	Privates.	Total commissioned.	Total enlisted.	Aggregate.
1	1						12	60	48	24		24		12	12			600	*44	797	841
2			1	1			1	5	4	2		2		1	1			50	3	66	69
3	1	2					12	50	48		24		24		12			350	56	525	581
4							1	6	4		2		2		1			64	5	80	85
5							1	4	4		2		2		1			26	4	40	44
6	1	2					10	40	40		20		20		10			360	*36	505	541
7							1	4	4		2		2		1			36	3	50	53
8					1	1		20	16		8					80	74		16	200	216
9								5	4		2					20	10		3	50	53
10								5	4		2					20	18		3	49	52

† See Note (e) on general organization table.

appointment. Officers appointed to positions in the regimental staff will, if serving with the regiment, be required to report without delay; if absent on detached service, application will be made to the authority governing their action. [G. O. No. 73, Adjutant General's Office, July 16, 1879.]

*Table of pay allowed by law to officers of the Army, annexed
House of Representatives*

GRADE.	PAY OF OFFICERS IN ACTIVE SERVICE.*					
	Yearly Pay.	MONTHLY PAY.				
		Prior to 5 years' service.	5 y'r's' service.	10 y'r's' service.	15 y'r's' service.	20 y'r's' service.
			to per ct	20 per ct	30 per ct	40 per ct
General	\$13,500 00	\$1,125 00	.....	.....	.....	.....
Lieutenant General . . .	11,000 00	916 67	.....	.....	.....	.....
Major General	7,500 00	625 00	.....	.....	.....	.....
Brigadier General	5,500 00	458 33	.....	.....	.....	.....
Colonel	3,500 00	291 67	\$320 83	\$350 00	†\$375 00	\$375 00
Lieutenant Colonel . . .	3,000 00	250 00	275 00	300 00	325 00	†333 33
Major	2,500 00	208 33	229 17	250 00	270 83	291 67
Captain, mtd.	2,000 00	166 67	183 33	200 00	216 67	233 33
Captain, not mtd. . . .	1,800 00	150 00	165 00	180 00	195 00	210 00
Regimental adj't	1,800 00	150 00	165 00	180 00	195 00	210 00
Regimental qm.	1,800 00	150 00	165 00	180 00	195 00	210 00
1st Lieutenant, mtd. . .	1,600 00	133 33	146 67	160 00	173 33	186 67
1st Lieutenant, not mtd.	1,500 00	125 00	137 50	150 00	162 50	175 00
2d Lieutenant, mtd. . .	1,500 00	125 00	137 50	150 00	162 50	175 00
2d Lieutenant, not mtd.	1,400 00	116 67	128 33	140 00	151 67	163 33
Chaplain.	1,500 00	125 00	137 50	150 00	162 50	175 00

* For law establishing the present rates of pay see sections 1261, 1262, 1263, and 1274, Revised Statutes.

† The maximum pay of a Colonel is by law \$4,500 per annum : hence full forty per cent. cannot accrue. [Section 1267, Revised Statutes.]

† The maximum pay of a Lieutenant Colonel is by law \$4,000 per annum ; hence full 40 per cent. cannot accrue. [Section 1267, Revised Statutes.]

NOTE 1. An Aide-de-Camp to a Major General is allowed \$200 per year in addition to the pay of his rank, not to be included in computing the service increase.—[*Act July 15, 1870, Sec. 24.*] Section 1261, Revised Statutes.

2. An Aide-de-Camp to a Brigadier General is allowed \$150 per year in addition to the pay of his rank, not to be included in computing the service increase.—[*Act July 15, 1870, Sec. 24.*] Section 1261, Revised Statutes.

3. An Acting Assistant Commissary of Subsistence is allowed \$100 per year in addition to the pay of his rank, not to be included in computing the service increase.—[*Act July 15, 1870, Sec. 24.*] Section 1261, Revised Statutes.

to the Army Register conformably to the resolution of the
of August 30, 1842.

GRADE	PAY OF RETIRED OFFICERS.*					
	Yearly Pay.	MONTHLY PAY.				
		Prior to 5 years' service.	5 years' service.	10 y'r's' service.	15 y'r's' service.	20 y'r's' service.
General						
Lieutenant General						
Major General	\$5,625 00	\$468 75				
Brigadier General	4,125 00	343 75				
Colonel	2,625 00	218 75	\$240 62	\$262 50	\$281 25	\$281 25
Lieutenant Colonel	2,250 00	187 50	206 25	225 00	243 75	250 00
Major	1,875 00	156 25	171 87	187 50	203 12	218 75
Captain, mtd.	1,500 00	125 00	137 50	150 00	162 50	175 00
Captain, not mtd.	1,350 00	112 50	123 75	135 00	146 25	157 50
Regimental adj't						
Regimental qm.						
1st Lieutenant, mtd.	1,200 00	100 00	110 00	120 00	130 00	140 00
1st Lieutenant, not mtd.	1,125 00	93 75	103 12	112 50	121 87	131 25
2d Lieutenant, mtd.	1,125 00	93 75	103 12	112 50	121 87	131 25
2d Lieutenant, not mtd.	1,050 00	87 50	96 25	105 00	113 75	122 50
Chaplain.	1,350 00	112 50	123 75	135 00	146 25	157 50

NOTE 4. Assistant Surgeons are entitled to pay of Captain after five years' service.—
[Act June 23, 1874, Sec. 4.]

5. Retired officers receive 75 per cent. of pay (salary and increase) of their rank, but no increase accrues for time subsequent to date of retirement.—
[Act July 15, 1870, Sec. 24.] Section 1274, Revised Statutes.

6. A retired Chaplain receives three-fourths of the pay (salary and increase) of his rank (Captain, not mounted).

7. The officer in charge of the public buildings and grounds (Washington) has, while so serving, the rank, pay, and emoluments of a Colonel.—[Act March 3, 1873, Sec. 1.]

8. The Aides-de-Camp to the General, selected by him from the Army, have, while so serving, the rank and pay of Colonel. [Section 1096, Revised Statutes.] The Aides-de-Camp and Military Secretary to the Lieutenant General, selected by him from the Army, have, while so serving, the rank and pay of Lieutenant Colonel. [Section 1097, Revised Statutes.]

U. S. MILITARY ACADEMY.

Every civilized power of sufficient importance to necessitate the keeping of a Standing Army, has deemed it wise to establish within its domain one or more National Military Schools, for the education of those who are to officer their armies.

The Military Academy of the United States,—established by act of Congress in 1802,—is located at West Point, New York, and is conceded to be one of the best in the world. The body of students at this institution is known as the **United States Corps of Cadets**, and is made up of one from each Congressional district, one from each Territory, one from the District of Columbia, and ten from the United States at large. They are appointed upon the recommendation of the Representative in Congress from the district in which they reside, and are required (except the ten cadets appointed at large), to be actual residents of the district from which they are appointed.

Appointments to the Academy are ordinarily made a year in advance, and appointees are admitted only between the ages of 17 and 22 years.

The recommendations of Representatives in Congress are frequently based upon the result of competitive examinations held in their respective districts, to which examinations all youths of proper age are admitted upon application.

Appointees are required to report in person at West Point, and to successfully pass a physical examination by a board of army surgeons, as well as an examination into their mental qualifications, conducted under regulations prescribed by the Secretary of War. They must be well versed in reading, writing and arithmetic, and have a fair knowledge of English grammar, descriptive geography, and of the history of the United States.

If the examinations are successfully passed, the candidate is required to take an oath of allegiance to the United States, to sign articles engaging to serve the United States eight years unless sooner discharged, and becomes subject

to do duty in such places and on such service as the President of the United States may direct, and he is subject in all respects to military discipline and to trial by Court Martial.

The cadets constitute a part of the Army, and are known as "warrant officers," taking precedence over all non-commissioned officers of the Army. Their warrants of appointment as cadets are signed by the Secretary of War.

The pay of a cadet is \$540.00 per annum, from which he is required to purchase all books and uniform clothing, pay for washing, lights, board, etc., receiving only tuition, quarters and medical attendance without charge.

The chief officer of the institution is the **Superintendent**, and the next in power is the **Commandant of Cadets**. These and the professors are officers of the Army, appointed by the President of the United States—the professors holding their offices during lifetime, or until retired, while the other two are officers detailed from different corps of the Army for a term of years. They are assisted in the discharge of their duties by officers detailed for the purpose by the Secretary of War. The Superintendent is, *ex officio*, a member of the Academic Board, and presides over it at the semi-annual examinations of the cadets.

The course of study extends through four years, and comprises mathematics (pure and applied), English, French, Spanish, drawing, philosophy (mechanics, acoustics and optics), astronomy, chemistry and electricity, mineralogy and geology, engineering (civil and military), ordnance and gunnery, science and art of war, military law, and the tactics of all arms of the service.

Graduates are commissioned as second lieutenants in the corps of engineers, artillery, infantry or cavalry, in accordance with the recommendations of the Academic Board as to which arm of the service they are especially fitted for. Usually the first four or five of the class enter the engineer corps, the next eight or ten the artillery, and the others either infantry or cavalry, according to their individual preference.

STATE MILITARY COLLEGES.

In each of the several States of the Union there are one or more institutions of learning where a military course of study is pursued. The Congress of the United States having deemed that the assistance of officers of the Army as instructors would be of great value to the country at large, enacted a law authorizing the Secretary of War to detail a certain number for this duty. The following are the regulations governing such details:

Details "shall be apportioned throughout the United States as nearly as may be practicable according to population;" such States as do not contain sufficient population to entitle them to one officer will be grouped with one or more contiguous States or Territories, so that the combined population of the group will allow the detail of one or more officers, to the extent of forty officers in all.

As a rule, captains of companies, regimental staff officers, or officers who have served less than three years with their regiments or corps, or who have recently completed a tour of detached duty, will not be eligible. No details will be made that will leave a battery, troop, or company, without two officers for duty with it. The period of detail will not be longer than three years.

Details of retired officers, under the act of May 4, 1880, will be in addition to the forty allowed by section 1225, as amended by the act of July 5, 1884, and may be made to institutions of learning of the requisite grade in any State, without reference to population or to the number of officers already serving therein.

No officer will be detailed at any institution except upon an application from its proper representatives.

Applications for details of officers should be addressed to the Secretary of War, and should be accompanied by a certificate as to the number of male students the college or university has the capacity to educate, and also by the last printed catalogue.

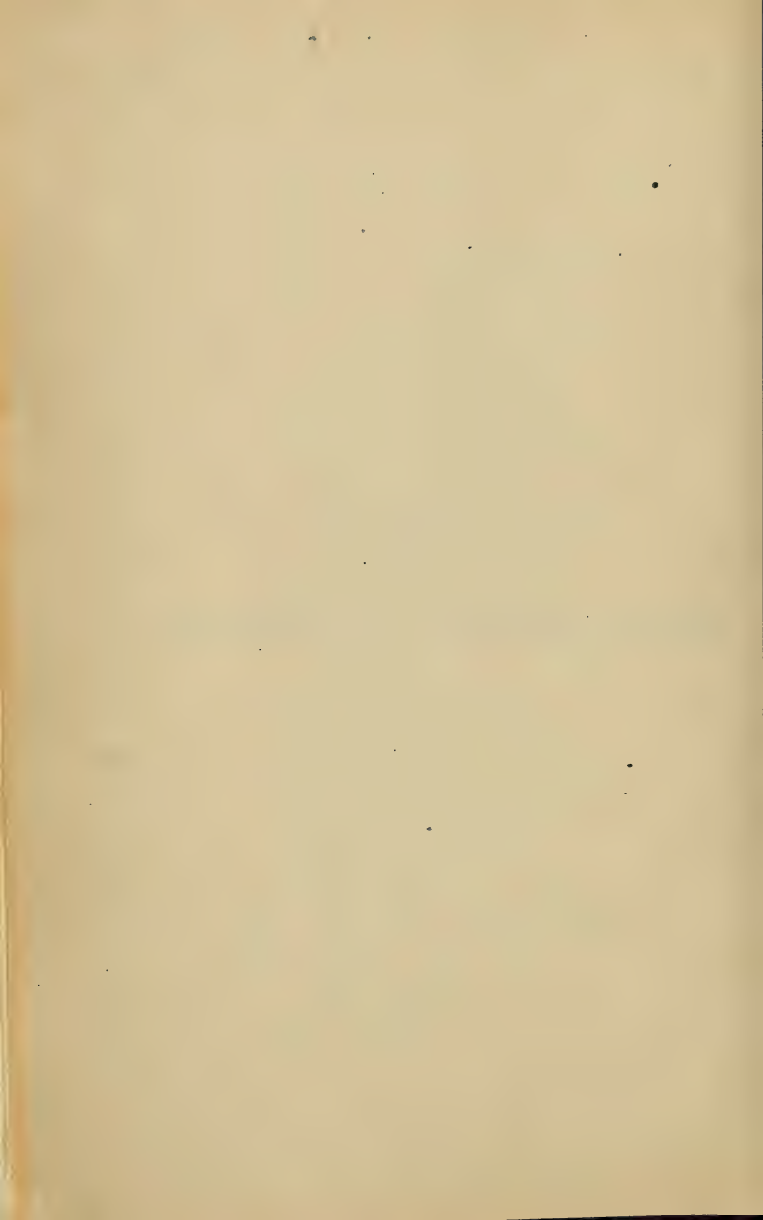
Officers of the Army desiring a detail at colleges or universities may make application therefor to the Adjutant

General, through the usual military channels, and their names will, if the officers are available, be furnished to such institutions as may desire such details.

[For amount of Ordnance, Ordnance stores, Ammunition, as well as for form of bond, see Army Register, 1886.]

CHAPTER II.

THE WAR DEPARTMENT AND ITS BUREAUS.



THE WAR DEPARTMENT.

IN all countries this department has the care and control of the armies of the Nation, and its chief is a counsellor to the head or ruler of the nation in all matters pertaining to its defence by the land forces, having under his superintendence all fortifications and their armament, all arsenals and factories wherein material of war is manufactured or stored for the Army. In the United States the head of the War Department is denominated the "Secretary of War," and he is a member of the President's Cabinet.

All the different bureaus through which the affairs of the Army are administered have their headquarters at Washington, D. C., and are under the supervision of the Secretary of War. These are known as the **Adjutant General's, Inspector General's, Judge Advocate General's, Quartermaster's, Subsistence, Medical, Pay, Engineers, Ordnance and Signal**—the latter being called the "Signal Corps" and the Engineers called the "Corps of Engineers."

Adjutant General's Department.

From this department emanate all orders governing the Army under the provisions of the Acts of Congress, that may be issued by the Secretary of War, the General commanding the Army, or any officer with a command equal to a Brigade. All correspondence passing between bureaus, or from line to bureau, or *vice versa*, must pass through this department. All plans of campaign, details of march, instructions to commanders, and the various details for service, also pertain to the Adjutant General's Department. In fact, this department must be fully informed of the details of every other department in the service. Indeed, it occupies relatively to the other departments the most prominent place. In the Army of the United States there is one Adjutant General and sixteen Assistant Adjutants General. In time of peace these As-

sistants are detailed on duty at the headquarters of the various military divisions and departments. In time of war every organization from a brigade to a separate Army has its Assistant Adjutant General, or an officer detailed from the command to take charge of the Adjutant General's Department, and who is styled an Acting Assistant Adjutant General (A. A. A. G.). The station of the Adjutant General of the Army is, under the law, at Washington City.

Inspector General's Department.

The duties pertaining to this bureau are to keep the War Department and all general officers informed of the condition of the Army, and their separate commands in all branches, and to protect the Government by due inspections, in the disbursement of moneys appropriated by Congress for the support of the Army; as well as to keep the General of the Army and the Secretary of War posted as to the condition of the troops, regarding their subsistence, clothing, military appearance, arms, equipments, and their general morale; also the condition of the military posts, the care of Government property, indeed, everything which bears upon the general efficiency of the Army.

The Corps consists of one senior Inspector General, one Inspector General and five Assistant Inspector Generals. The Senior is located permanently at Washington, and the others are distributed wherever their services are most needed at Headquarters of Divisions and Departments.

In addition to the regularly commissioned staff officers of this corps, a number of officers of the line are detailed at Department and District Headquarters for the performance of duty in this Department. When belonging to other corps and detailed for duty in this department, they are termed Acting Assistant Inspector Generals (A. A. I. G.).

Judge Advocate General's Department.

This is the Military Law Department of the Army. As far as practicable the officers of this department are, except the two Seniors, distributed among the several military

departments, where they exercise a supervision over charges and specifications to be referred to General Courts Martial, as well as the legal correctness of the proceedings in cases tried by *any* Court Martial, Court of Inquiry, or Military Commission, within their jurisdiction. There are eight officers in this department, including the Senior, who is designated as the Judge Advocate General.

Quartermaster's Department.

This Department supplies everything required in the Army, except subsistence stores, ordnance stores, medical supplies, and a few necessary articles which are intended to be sold by the Subsistence Department for the comfort of the troops. It is the department requiring the greatest amount of financial responsibility of any department in the service. In addition to furnishing everything required for the comfort of troops, it must provide transportation, not only for troops and its own property, but for the stores and property of all other departments of the Army. It also provides forage for all animals connected with the public service, builds all military posts (not permanent fortifications), and is the custodian of all public buildings and lands in use by the Army.

In time of war the duties of its officers are the most onerous of any one of the bureaus, and on its effectiveness depends very largely the success of an Army. Its officers consist of one Quartermaster General and fifty-six other commissioned officers. In addition to these, each regiment has a Lieutenant on quartermaster's duty, and he is designated as a Regimental Quartermaster. Every military post garrisoned by troops also must have an officer to perform quartermaster's duty, and if there should be no regular staff officer of the Quartermaster's Department or Regimental Quartermaster available, then a company officer must be detailed for the duty, and is designated an Acting Assistant Quartermaster (A. A. Q. M.)

Subsistence Department.

This Department supplies the Army with the means of

subsistence. It also furnishes the funds for the construction of ovens for baking bread, but does not build the bake-house—that much pertains to the Quartermaster's Department. It also supplies pipes, tobacco, cigars, pins, needles, combs, brushes, blacking, towels, toilet-soaps, spool-thread, sewing-silks, and a number of other minor articles of this class which are deemed necessary for a soldier's comfort, and which can be purchased by officers or soldiers at the original cost to the Government. The officers of the Subsistence Department consist of a Commissary General and twenty-five assistants. The former is located at Washington City, while the others are distributed throughout the country at such points as may be deemed the best for the interests of the service.

At each Division and Department Headquarters an officer of this corps is located, as well as at certain supply depots. At all garrisoned military posts in time of peace a Lieutenant is detailed on duty in this department, for which he receives one hundred dollars per annum extra pay, and is termed the Acting Commissary of Subsistence (A. C. S.).

Medical Department.

This Department has charge of the health of the Army, and its officers are termed Surgeons and Assistant Surgeons. It is the most exclusive and independent of all the staff departments of the service. It plans its own hospitals, transports its own sick and wounded in time of war, supplies its medicines, stretchers, mattresses, blankets, cover-lids, instruments, etc. In time of peace, a Surgeon is stationed at every Division and Department Headquarters, who is termed the Medical Director, and at large military posts one Surgeon and one Assistant are located; and they are required to administer to the troops and to the families of officers and soldiers. At smaller posts only one Assistant Surgeon is stationed.

In time of war an Assistant is attached to every regular regiment, while the volunteer troops have with their organizations one Surgeon and one Assistant.

The higher officers of the Medical Department in the field are attached to Divisions, Corps and Armies as Medical Directors. The officers of this Department consist of a Surgeon General and one hundred and ninety-one others of various grades (see organization of the Army, p. 17-20). In addition to these a number of citizen doctors are employed as contract surgeons, and they are denominated Acting Assistant Surgeons. Whenever an officer is admitted to the corps he has the rank and pay of a First Lieutenant of Cavalry, and after five years' service he becomes a Captain; then his promotion is by seniority in his corps. They are required to pass a second examination before being promoted to a majority.

Pay Department.

The officers of this corps are stationed either in the large cities, in the neighborhood of troops, or on the direct lines of travel through the country, in order that they may be available for the payment of the Army and for those discharged from the Army and on the way to their homes. Once every two months (a few days after muster) the Paymasters, under orders from the Departments in which they are located, proceed to the various military posts and pay the troops, which payment must be witnessed by one officer at least, and that one should be the Commander of the company or detachment to whom the payment is made. A Paymaster is also stationed at the Headquarters of every Military Division or Department in the country, who is known as the Chief Paymaster of the Department, and pays all officers who present their accounts monthly or remits check by mail in payment of any account sent him. He also pays discharged soldiers, and settles accounts for mileage, etc. The officers of this Department consist of one Paymaster General who is stationed at Washington, and thirty-four other officers.

The Corps of Engineers.

This corps is peculiarly organized, it being in effect the highest branch of the Army as well as of the Staff, and has

a battalion of four companies, organized different from any corps in the service, (see organization of the Army p. 22). In time of peace the Headquarters of this battalion are established at Willet's Point, Long Island, where an Engineer School is in constant progress for both officers and enlisted men, who have practical and theoretical instruction in the erection of fortifications, use of explosives, both with and without electricity, the making and placing of pontoon bridges, all of which would come within their special duties in time of war. This Department renders to the country at large a valuable and important service by having its officers detailed to take charge of the river and harbor improvements, constructing breakwaters, opening channels for the navigation of rivers, superintending the erection of important public buildings, etc. There are one hundred and nine officers in this corps, including a Chief of Engineers, whose headquarters are at Washington, D. C.

In time of war the Corps of Engineers becomes a separate arm of service, and is organized into companies and battalions similar to Infantry, and go under different names of Sappers and Miners, Pontoniers, Constructors, etc.

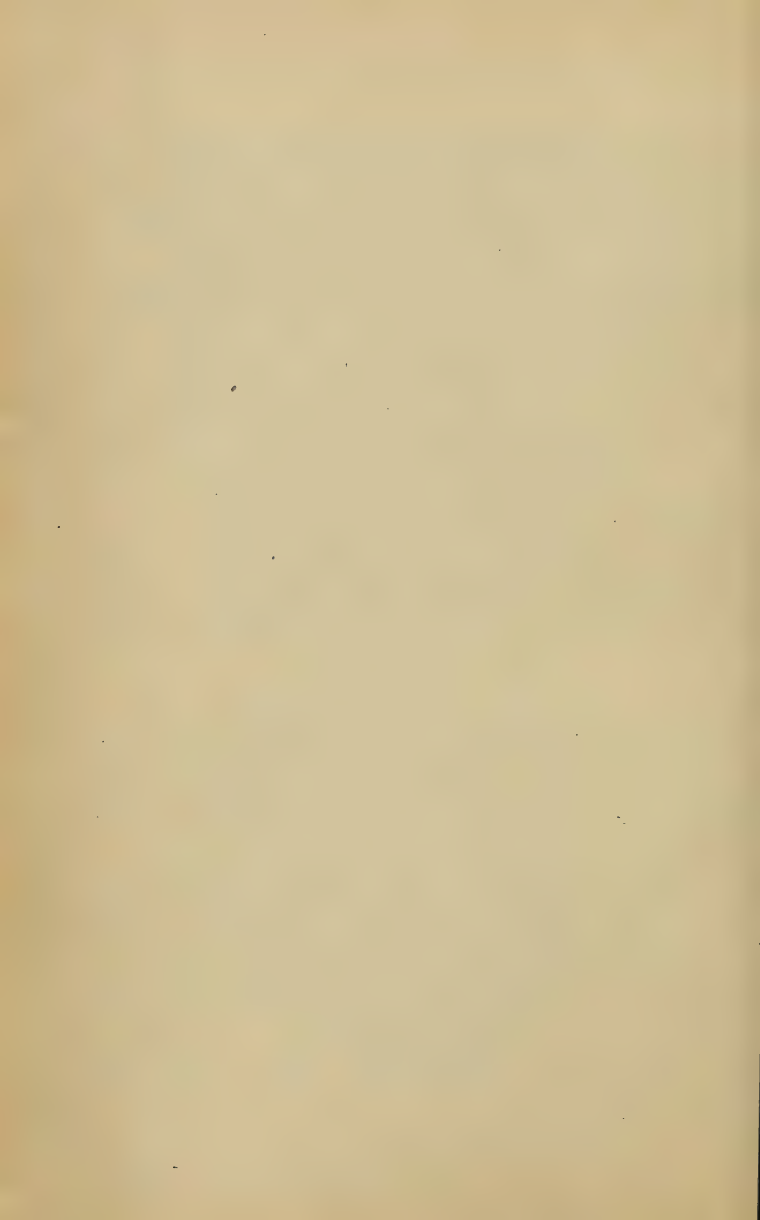
Ordnance Department.

This Department has charge of the manufacture and supply of arms, equipments, ammunition, and everything pertaining to the fighting *material* of an Army. It also provides horse equipments and field outfits for the soldiers, such as blanket bags, haversacks, canteens, tin-cups, meat ration cans, knives, forks and spoons. The duties of the officers of this corps are so very specific that but little more can be said than that they are stationed at the various arsenals and Ordnance Depots throughout the country, either superintending the manufacture of Ordnance and Ordnance Stores, or taking charge of the depots for storage and issue. There is one Chief of Ordnance, stationed at Washington, and fifty-eight others in the Department.

Post Chaplains.

There are thirty officers of this class allowed by law.

They must be regularly ordained ministers of the Gospel, and in addition to their religious duties at the military posts where stationed they must also superintend the Post Schools—which are provided for the children of officers and soldiers—as well as the school for enlisted men. There not being a sufficient number to supply every post with one, they are generally located where it is supposed the best fields for their labors exist.



CHAPTER III.

THE LINE OF THE ARMY—

THE COMPANY.

THE TROOP.

THE BATTERY.

THE BATTALION.

THE REGIMENT.

THE COMPANY, TROOP AND BATTERY.

COMPANIES, troops or batteries being the smallest permanent units of organization and command in all Armies, they will, if their organization be good, their discipline correct, their drill efficient, and their administration honest, cause the regiments to be likewise.

As the records of companies are of vital importance to the correct keeping of the records of the Army at large, and as a knowledge of the proper manner in which they should be kept is essential to the welfare of every officer and enlisted man, a model form of all papers, reports, returns, muster rolls, etc., is given in connection with these units of organization.

The Captain.

A Captain stands, with regard to his company, in the same light as a father to a large family of children. It is his duty to provide for their comfort, sustenance and pleasure, enforce strict rules of obedience, punish the refractory, and reward the deserving. He should, in connection with his Lieutenants, visit the mess-house of the company, inspect all its arrangements, vary the food, see that it is well cooked, and an ample quantity provided. He should watch over the morals of his men and endeavor to instill into their minds, by occasional simple remarks, the necessity for a proper observance of moral laws, and by his example teach them the obligations they owe one to the other, and to the world at large. He should be kind and courteous, not only to his officers, but should combine kindness with his most peremptory commands to his men. Above all, he should exercise this principle towards the recruits who come under his care, and should demand that his non-commissioned officers pursue the same course. Desertion is fre-

quently caused by the harsh treatment of non-commissioned officers, and many a man with a high spirit would rather suffer the ills that arise from this cause, than complain to his officers. This is borne for a long time, until the burden becomes too heavy, and desertion follows. By close attention, by frequent questioning as to the details of duty, by a strict examination into little difficulties that will spring up among the men, and by a careful watch over the rosters for duty, he will not only produce a well organized and disciplined command, but will create a feeling of respect and *esprit* akin to love.

The Lieutenants.

Lieutenants are provided for the assistance of the Captain in the discharge of his duties toward the company, and the Senior to take the Captain's place in the event of sickness or becoming detached from the immediate command of the company.

Lieutenants should have access to the records and returns of the company, and should be required to familiarize themselves with all the various reports, returns, and other papers connected with it, and make them out in their own handwriting until they show themselves proficient in these duties.

The First Sergeant.

The First Sergeant has charge of everything which pertains to the company under the supervision of its commanding officer. He is the immediate head of the family, and as such must have an eye to everything connected with it. His efficiency is shown in the health, discipline and general *morale* of the men under him. He watches over the rations and observes whether they are properly cooked and used, makes the details for service, and corrects all disorders. To quell frays or disturbances he has power to confine those engaged; but must first report it to his company Commander, and receive his orders. He divides the company into four squads, and places a non-commissioned officer over each one, and sees that they carry out the instructions given them.

Every morning, immediately after breakfast, he turns out the whole company, or as many men as may be necessary, and has the grounds about the company, camp or barracks thoroughly policed (or cleaned).

Men desiring to see the Surgeon are then sent, under a non-commissioned officer, to either the company Commander or a previously designated Lieutenant, who interrogates them as to their illness; the First Sergeant then places their names upon the company sick book, a specimen page of which here follows:

Sick Report of Company "B," Sixth Regiment of U. S. Artillery, for May 20, 1885.

ENTRIES TO BE MADE BY THE FIRST SERGEANT.					SURGEON'S REMARKS.			
NAME OF PATIENT.	RANK	DATE WHEN TAKEN SICK.	No. of times reported sick by the Surgeon during the year.		DISEASE. (If feigned, so state.)	WHETHER SICK IN QUARTERS OR IN HOSPITAL.	OF WHAT DUTY CAPABLE WHEN SICK IN QUARTERS.	WHEN RETURNED TO DUTY.
Henry May .	Pvt.	May 1, '85	19	19	Catarrh . .	Hospital.	. .	. . . . .
Wm. Smith .	Corp.	" 15, '85	5	10	Piles . . .	Duty . . .	. .	May 20, '85
Eben Johnson.	Pvt.	" 20, '85	. .	. .	Tonsillitis .	. . . . .	Qrs.	. . . . .
Sam'l White .	"	" 20, '85	. .	. .	Pneumonia.	Hospital.	. .	. . . . .
Rufus Rangle.	"	" 20, '85	. .	. .	Sore throat.	Duty . . .	. .	May 20, '85
* I certify that I have carefully examined the above report. BENJ. F. ALDEN, <i>Captain Company " "</i>					J. S. FLETCHER, <i>Asst. Surg. U. S. A.</i> <i>Attending Surgeon.</i>			

* The examination may be made and the list signed by any Commissioned Officer of the Company.

At sounding of "Sick-Call," fixed at such hour as the commander of the post or camp may determine, the First Sergeant proceeds to the hospital with such patients as he may have authority to take, and submits his book to the

Surgeon, who examines each man in turn and prescribes for him, taking such as may require closer attention into the hospital for treatment, returning the others to their company, marking them for "duty" or "sick in quarters." Each case should be, if practicable at the time, diagnosed, and the cause of sickness entered on the book. This must, however, be done as soon as the diagnosis is made, in order that the records of the individual may be complete and to enable the First Sergeant to make out his Muster Roll properly.

The First Sergeant, after all his men have been examined and his report signed by the Surgeon, returns to his orderly room or tent, and makes out his "Morning Report," in a book furnished for that purpose from the Adjutant General's office, a specimen page of which is here inserted:

Remarks for the Month of

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CENT.

AGGREGATE LAST REPORT.
Total of Horses.

1	No change.
2	{ 1st. Lt. Green from duty to sick. Sergt. Jones from du Pvts. Hall and Green from duty to confinement. Pvts Recruits Smithers, Nixon and Gould, assigned to comj
3	Pvt. Maxey from sick to duty.
4	{ 2d Lt. Warren and Pvts. Jordan and Black from dut to duty.
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

MORNING REPORTS of Captain Henry M. Stanton's Company D., of the Twenty-fourth Regiment of Infantry, Army of the United States, Colonel Thompson Henderson, for the month of May, 1885.

[illegible]

Remarks for the Month of May, 1885.

1	No change.
2	{ 1st. Lt. Green from duty to sick. Sergt. Jones from duty to arrest. Artificer Blake from d.d. to duty. Pvts. Hall and Green from duty to confinement. Pvts. Maxey, White and Brown, from duty to sick. Recruits Smithers, Nixon and Gould, assigned to company.
3	Pvt. Maxey from sick to duty.
4	{ 2d Lt. Warren and Pvts. Jordan and Black from duty to detached service. 1st Lt. Green from sick to duty.
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

This report must show the exact status of every man in the company; changes which have occurred since the preceding day's report must be noted in the figures on the face of the report, and on the back a remark in detail with the name of each man for whom the change is made, whether it be officer or soldier. It is then signed by the First Sergeant, taken to the company Commander for verification by his signature, and then left at the Adjutant's office—all of which must be done by 8 o'clock a. m.

All passes for enlisted men must be sent in with the morning report (see form of pass).

FORT STRANG, NEB., Jan. 20, 1885.

Private WM. F. PRESCOTT, Co. D., 4th Art., has permission to be absent from the garrison from 4 o'clock P. M. 20th inst., until 9 o'clock A. M. 21st inst.

Approved

By order of Colonel LARCIN;

CHAS. F. STOWE, 1st Lt. & Adj't 4th Art.

Post Adjutant.

B. F. STARR,

Capt. 5th Art., Com'g.

MORGAN DIXON,
1st Sergeant Co. D.,
5th Art.

The next duty on the day's programme will be guard-mounting. The time for this is published in orders to the command, and it is usually at 9 o'clock in the morning; or while on the march, after arriving in camp. At the sound of "the assembly" for this ceremony, the detail for guard falls in, and is inspected by the First Sergeant. If any man is found unsuitable, the supernumerary is taken, the man relieved, and another detailed to take his place, and the Sergeant will proceed with his detail as described under "Guard-mounting," page 169.

Following after guard-mounting, there will be at most of the posts, during the summer season, company or squad drill; if the former, the company must be formed at the hour mentioned, by the First Sergeant, and reported to the company Commander; if squad drill, then the squad will be formed and drilled by the non-commissioned officer detailed to take charge. From this time to dinner call the First Sergeant must be about the company quarters, to observe the order and cleanliness of the same and see that the

preparations for dinner are being carried out ; and when the dinner call is sounded, to see that the men come to the table in an orderly manner and get their proper allowance of food.

At 12 o'clock noon "orderly call" sounds, when the First Sergeant repairs to the headquarters of the post or camp, where his "morning report" is returned to him, together with a list of the non-commissioned officers and number of men required for guard. He must also, at this time, take copies of all orders issued during the past twenty-four hours, and immediately notify the company officers of their purport.

During the afternoon the First Sergeant makes a list of the names of the non-commissioned officers and privates required for guard on the following day, and posts the same in the company barracks or camp, and calls the names of the detail at "retreat" roll-call.

Should there be drill in the afternoon, the company or squad will be formed as directed for morning drill.

The details for daily duty in the company will be made as follows : 1st, for Guard ; 2d, Supernumerary of the guard ; 3d, Room orderly ; 4th, Cook's police. Should a fatigue detail be required from headquarters it will be made next after the supernumerary detail.

At the hour designated for dress-parade (or in place of it, retreat roll-call) the First Sergeant will form his company in such dress and equipment as may be required ; and if there should be dress-parade, and no officer with the company, he marches it to the parade-ground, forms it with the battalion, and takes his place on the right of the company.

There are no specified duties for the First Sergeant between **retreat** and **tattoo**. At the latter call he forms his company, calls the roll, and reports the result to the officer whose duty it is to receive it. In the absence of a company officer, or any other detailed for duty with the company, the First Sergeant reports the result to the Adjutant or other officer designated to take his place.

At "**taps**"—generally designated to be sounded fifteen

minutes or half an hour after tattoo, the First Sergeant's daily duty is completed.

Every Saturday the First Sergeant utilizes all the men of the company not on other duties in scrubbing the barrack rooms, mess-hall and kitchen, preparatory to Sunday morning inspection. This is also done the day before the last day of each month, preparatory to monthly inspection.

The First Sergeant forms the company on all occasions when it parades as a company for any duty, unless specially excused. He countersigns all passes for enlisted men, causes to be made timely requisitions for rations, clothing, fuel, lights, stationery. If possible the First Sergeant should be free from the care of making out papers. In the field he should always carry a good sized pocket-memorandum book, in which to keep the rosters for duty (in event of being detached from the field-desk), and such other data as will enable him to complete the itinerary of the march and the record of events for his returns and Muster Rolls. In this he should also keep the numbers of each rifle, carbine or revolver that is in the hands of the men, so that in the event of loss or accidental exchange at night or other time, the arm may be traced.

The First Sergeant is the highest non-commissioned officer in these organizations, and next to the captain is the one upon whom much of the discipline and well-being of the company depends. He is appointed from among the Sergeants of the company by the Captain, and holds his place at his, the captain's will.

Company Clerk.

Next to those of the First Sergeant, the duties of the Clerk are the most important in the company. The records, together with the returns, requisitions, reports of target practice, etc., are so voluminous as to keep him almost constantly employed. His first attention should be given to the **Descriptive Book**, in which is kept a full description of every man, including his date of enlistment, together with his record while in service, good or bad.

Model Page of Descriptive Book.

JAMES H. WILLIAMSON, Company "G," Thirtieth Regiment of Infantry, joined July 21st, 1880, at Fort Concho, Texas.

Born at Columbus, Ohio; Age, 26; Occupation, painter. Enlisted July 6th, 1880, at New York City, N. Y., by 1st Lieut. H. E. Tryall, 7th Arty., for five years. Eyes, hazel; hair, light; complexion, ruddy; height, 5 feet, 6½ inches.

Personal Marks.—Foul anchor on right arm; Goddess of Liberty on left.

Former Service.—(Whatever shown by previous discharges from the U. S. Army.)

Additional Pay.—Entitled to \$2 per month for 5 years' continuous service [or whatever entitled to by discharge shown].

RECORD.

Appointed Corporal July 1, 1882, per R. O., No. 50, C. S.; promoted to be Sergeant August 1st, 1884, per R. O., No. 62, C. S.

Character given on discharge.—Excellent as a soldier; also a good carpenter [or whatever it may be].

Married or single.

RECORD OF DEPOSITS.

DATE OF DEPOSIT.	AMOUNT.		PAYMASTER.
March 13, 1881	70	00	Major Tarrant.

Record of Final Statements given to Sergeant James H. Williamson.

He was last paid by Paymaster Van Dusen, U. S. A., to include the 30th day of June, 1885, and has pay due from that date to date of discharge.

DUE SOLDIER.	DOLLS CTS.		DUE UNITED STATES.	DOLLS CTS.	
For — years continuous service			For clothing overdrawn		
—\$ per mo.			For Tobacco		
For Retained pay	72	00	For		
For Clothing not drawn in kind .	58	75	. . . . .	
For Deposits as per above record.	70	00	. . . . .	

Station—Fort Del Norte, I. T.

Date—July 20th, 1885.

WILLIAM BOUTELLE,

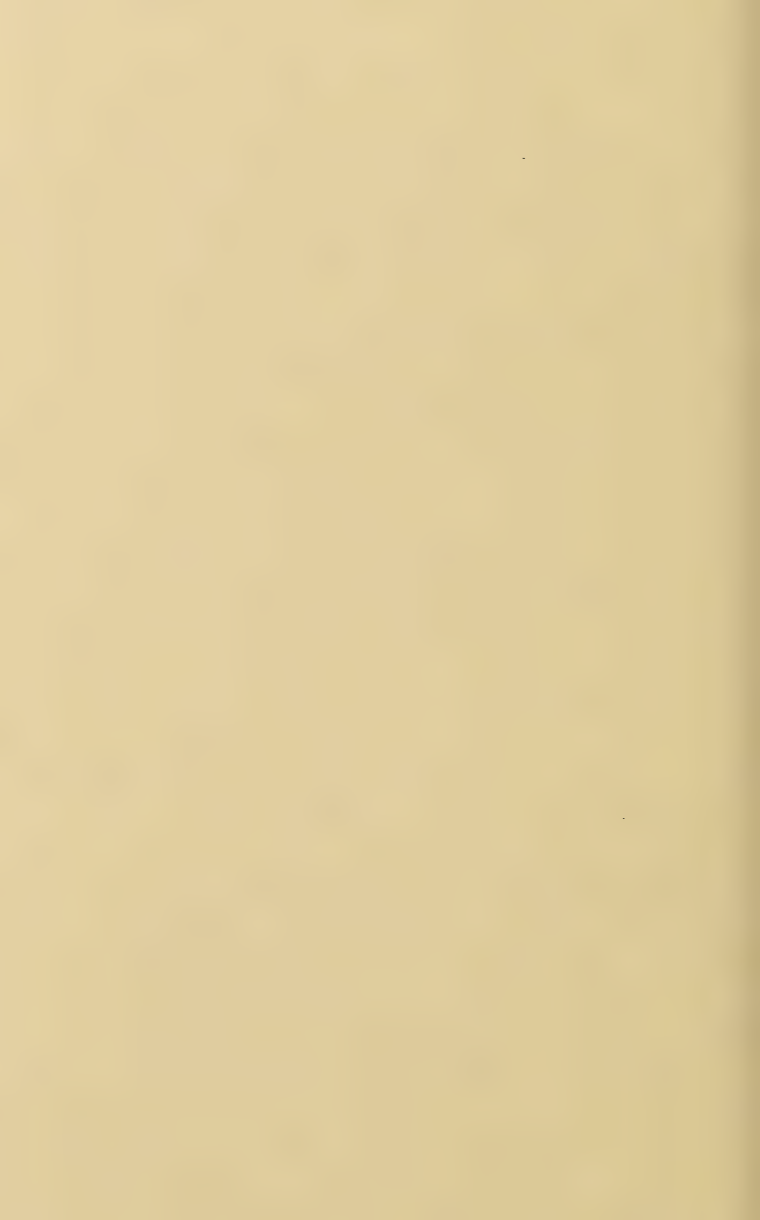
Capt. 30th Inf., Comd'g Co. "G."

The next in importance is the **Clothing Book**, in which is entered every article of clothing drawn by any man of the company. At the end of June and December the accounts are balanced; those who are indebted to the U. S. will be charged on the muster-rolls of those months, with the full amount of balance due the Government. Any balance due the soldier will be carried to his credit on the succeeding six months, and from that time to the date of discharge, if he never overdraws his allowance. (See form opposite.)

THE UNITED
Company "G,"
him during his
knowledge.

Date of Issue.			Money Value.		Berlin Gloves.
M.	D.	Y.	Dolls.	Cts.	
July .	30	1880	27	2	6
Oct. .	9	1880	30	.	
Jan .	10	1881	10	.	
April.	12	1882	5	.	.
.
.
.
.
Jan .	10	1885	2	.	.
.

Co.

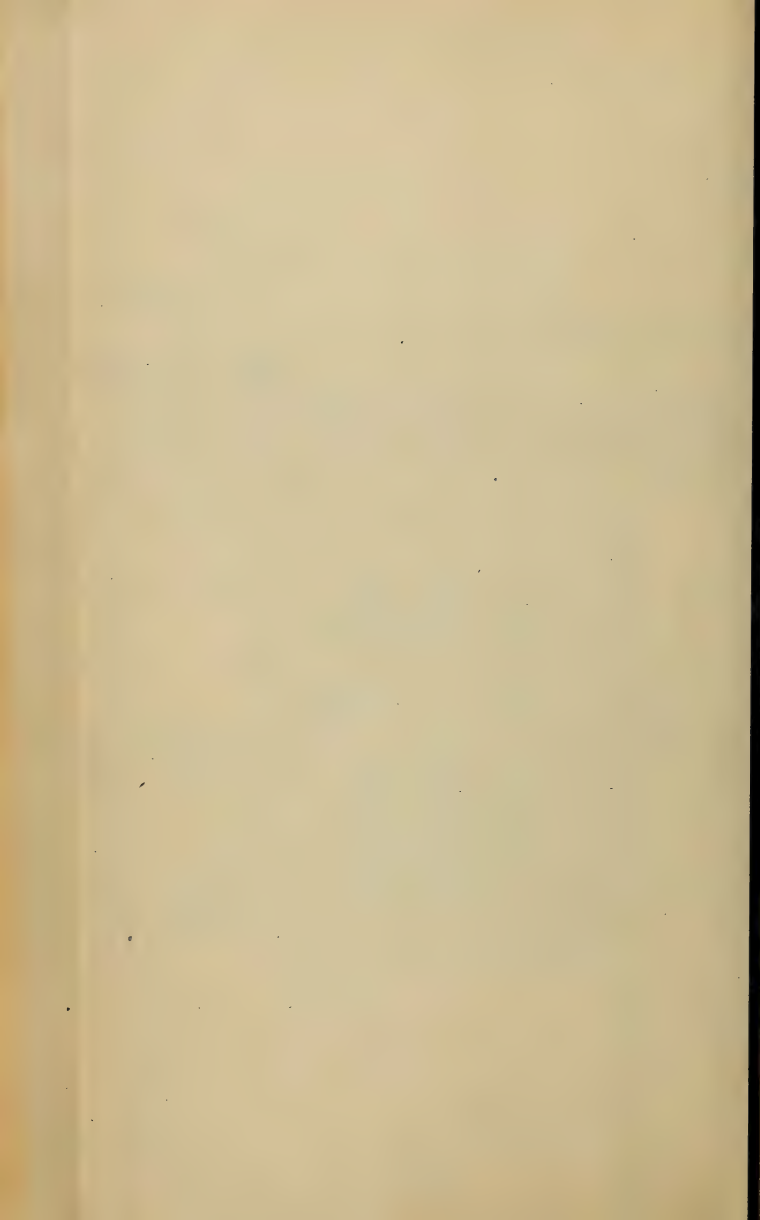


Model Form of Clothing Book.

THE UNITED STATES in account with JAMES H. WILLIAMSON, of Company "G," Thirtieth Regiment of Infantry, for Clothing issued him during his enlistment, the money value of each issue being acknowledged.

Date of Issue.			Money Value.		Total.	Allowance.	Date of Settlement.			Due Soldier.	Due U. S.	REMARKS.	SIGNATURE.	WITNESS.	Helmets.	Forage Caps.	Uniform Coats	Trousers.	Shirts.	Undershirts.	Drawers.	Boots.	Shoes.	Stockings.	Blouses.	Overcoats	Chevrons.	Stripes.	Blankets	Berlin Gloves.	
M	D	Y.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	M.	D	Y.	Dolls.	Cts.	Dolls.	Cts.																
July.	30	1880	27	62																											
Oct.	9	1880	30	70	58	32	29	57	Dec.	31	1880		26	75	Charged on M & P. R	J. H. Williamson	H. Fry, 1st Lt. 30th Inf.	1	1	1	1	2			1	6	1				
Jan.	10	1881	10	42	10	42	32	70	July	30	1881	22	28		J. H. Williamson	J. Eels, 2d Lt. 30th Inf.			1	2		2			3		1				6
							17	50	Dec.	31	1881	39	78		J. H. Williamson	H. Fry, 1st Lt. 30th Inf.							1	1		1					
April.	12	1882	5	60	5	60	16	20	June	30	1882	50	38		J. H. Williamson	H. Fry, 1st Lt. 30th Inf.				1	2	2									
							18	70	Dec.	31	1882	66	58																		
							18	70	June	30	1883	85	28																		
							18	70	Dec.	31	1883	103	98																		
							15	40	June	30	1884	119	38																		
							15	40	Dec.	31	1884	134	78																		
Jan.	10	1885	2	40	2	40	1	60	June	30	1885	144	98		J. H. Williamson	J. Eels, 2d Lt. 30th Inf.	1														
							1	20	July	20	1885	146	18																		
															Date of discharge																

WILLIAM BOUTELL,
Capt. 30th Inf., Commanding Co.



If possible, the company clerk should not have control of the clothing book. As the captain is responsible to the Government for the clothing issued, he alone should keep the book, or if he gives the keeping to the clerk, he should frequently inspect it, to see that all accounts are right.

The **Order Book** comes next. All orders affecting the company or any officer or man thereof should be entered in this, no matter from what source received. In extensive printed orders, only the heading and that part which affects the company should be entered. General orders from the War Department and from the Geographical Department in which the company is serving, should be kept as a running file—a copy of every one issued, no matter of what purport, being furnished the company for this purpose.

A **Letters Received Book**, together with an Index book, is another of the permanent record books of the company, in which should be entered all letters or endorsements pertaining to it, the index to which should be kept double—that is, the **name** of the party or parties to whom it refers, as well as the **subject** of the communication, should be entered under the proper letters of the alphabet.

The **Letters Sent Book**, also with an Index, is kept in the same manner as the letters received.

The **Target Record** is a book in which must be entered the number of points made by every shot that is fired at the target by either officers or men.

The **Company Fund Book** is one in which must be entered the proceedings of the Company Council of Administration, together with the receipts from the sale of surplus rations, and the expenditures made for all articles purchased for the Company.

In addition to the above books, which are required to be kept by orders from the War Department, every Company clerk will find it to his advantage to keep a book in which to enter all matters, such as fines of Courts-Martial, stoppages for losses of Ordnance stores or Camp or Garrison Equipage, etc., and all data which will enable the clerk to make up the muster-rolls correctly, and in which can also be entered the number of each rifle, carbine, or pistol in the hands of the men of the Company.

The Morning Report, Descriptive Book, and the Clothing Account Book, are furnished from the Adjutant General's Office ; the Order book, Letters Received, and Letters Sent books, with separate indexes, are furnished by the Quartermaster's Department ; and the Target Record by the Ordnance Department ; those from the Adjutant General and Ordnance Department on a simple application by letter, while those from the Quartermaster's Department have to be obtained on special requisition for Clothing, Camp and Garrison Equipage, through the Post or Regimental Quartermaster. All other books described must be obtained as blank books from the Quartermaster's Department on requisition, and ruled to suit the purposes for which they are prescribed.

In addition to the books required to be kept, numerous returns and reports have to be made, as follows :

The First Day of Each Month.

MONTHLY RETURN OF COMPANY.

The annexed specimen form exhibits it in all its particulars:



RETURN of Captain Henry Jones, Company G., of the 6th Regiment of Cav., Army of the United States, for the month of January, 1885.

Present.				Absent.				Present and Absent.										Alterations since last monthly return.										Memoranda.			
Commissioned officers.		Enlisted men.		Commissioned officers.		Enlisted men.		Commissioned officers.		Enlisted men.								Gain.			Loss.							Horses.		Pieces of artillery.	
																		Commission'd officers.			Enlisted men.										
For duty.				On detached service.		On detached service.		Captain.		First lieutenants.								By promotion or appointment.			Discharged.							Serviceable.			
On special or daily duty.				With leave.		With leave.		First lieutenants.		Second lieutenants.								By transfer.			In ac't'n or of wounds received there.							Unserviceable.			
Sick.				Without leave		Without leave.		Second lieutenants.		Additional second lieutenants.								Enlisted men.			Of disease, &c.							Lost in action, died, &c.			
In arrest or suspension.				Sick.		Sick.		Total commissioned.		First Sergeant.								Recruits from Depots.			Expiration of service							Heavy.			
In arrest or confinement.				In arrest.		In arrest or confinement.		Quartermaster sergeant.		Sergeants.								Enlisted in the Regiment.			For disability.							Field.			
Total.				Total.		Total.		Sergeants.		Corporals.								Re-enlisted.			By sentence General Court-Martial.							Mountain.			
								Corporals.		Trumpeters.								By transfer.			By order.										
								Trumpeters.		Musicians.								From missing in action.			Died.										
								Musicians.		Farriers and Blacksmiths.								From desertion			Transferred.										
								Farriers and Blacksmiths.		Artificers.											Aggregate.										
								Artificers.		Saddlers.											Resigned.										
								Saddlers.		Wagoners.											Dismissed or cashiered.										
								Wagoners.		Privates.											Transferred.										
								Privates.		Total enlisted.											In ac't'n or of wounds received there.										
								Total enlisted.		Aggregate.											Of disease, &c.										
								Aggregate.		Aggregate last monthly return.											Expiration of service										
								Aggregate last monthly return.													For disability.										
																					By sentence General Court-Martial.										
																					By order.										
																					Transferred.										
																					Died.										
																					Discharged.										
																					Aggregate.										
																					Resigned.										
																					Dismissed or cashiered.										
																					Transferred.										
																					In ac't'n or of wounds received there.										
																					Of disease, &c.										
																					Expiration of service										
																					For disability.										
																					By sentence General Court-Martial.										
																					By order.										
																					Transferred.										
																					In ac't'n or of wounds received there.										
																					Of disease, &c.										
																					Missing in action.										
																					Deserted.										
																					Aggregate.										
																					Wounded in action.										
																					Recruits required.										
																					Serviceable.										
																					Unserviceable.										
																					Lost in action, died, &c.										
																					Heavy.										
																					Field.										
																					Mountain.										
																					No. of blank Company Returns on hand.										

Return of Captain ———, Company (——), of the ——— Regiment of ——— Army of the United States, for the month of ———, 188 —Continued.

COMMISSIONED OFFICERS, PRESENT AND ABSENT, ACCOUNTED FOR BY NAME.

- NOTE 4.—The *date* (with No., date, &c., of order) at which an officer is *assigned* or *transferred* to, *joins* or *rejoins*, the company, *assumes* or is *relieved* from the command of it, or from any *special* duty, will be stated against his name; against that of *absent* officers, the *No.* and *date of order*, the *reasons* for, and *commencement* of absence, and *period* assigned for same (to be repeated on every return while it lasts).
- NOTE 5.—After the list of ABSENT officers will follow the record of those *resigned*, *died*, &c., or transferred from the company, with No., date, &c., of order, *date*, *place*, and, in case of death, its *cause*.
- NOTE 6.—Officers of other organizations serving with, or attached to, the company for duty, will be borne in red ink at the foot of the list of officers (present or absent as the case may be), but will not be included in the figures on the face of the return. The requirements of Notes 4 and 5 will also be observed in such cases.

No.	Names.	Rank.	REMARKS.
Present.			
1	Henry Jones	Capt. and Bvt. Major . .	Commanding Company
2	Jas. D. Vernon.	1st Lieut.	With Company and A. A. Q. M. and A. Q. of Post per Orders No. 17, Fort Arbitrary, Jan. 20, 1885.
3	Ira P. Hoffman.	2d Lieut.	With Company
Absent.			

OFFICIAL COMMUNICATIONS RECEIVED FROM REGIMENTAL HEADQUARTERS DURING THE MONTH.

Nature of—	No. of order.	Date.	When received.	Purport.

ALTERATIONS SINCE LAST RETURN AMONG THE ENLISTED MEN.

- NOTE 7.—The *date*, &c., of all *transfers* to or from the company (with *No.* and *date of order*), of all *apprehensions*, *surrenders*, *discharges*, *deaths*, *desertions*, &c., will be accurately noted; also, the *places* of discharge, death, desertion, &c.

(To be accounted for BY NAME, and classed in the same order as on the face of the return.)

RETURN OF

Company (G), 6th Regiment of Cavalry.

For the month of January, 1885.

No.	Names.	Rank.	Date.	Place.	REMARKS.
Gain.					
1	Peter Shoaf	Private.	Jan. 15, 1885 . .	Fort Arbitrary, Kan.	Re-enlisted in Co.
2	Sam'l D. Peterson. . . .	Recruit	Jan. 20, 1885 . .	" "	Assigned to Co. per Orders No. 3, Hdqrs., 6th Cav., C. S.
3	Jas. D. Ostrom.	Recruit.	Jan. 17, 1885 . .	" "	Assigned to Co. per Orders No. 1, Hdqrs., Cav. Rec. Serv., C. S.

For the month of —, 188 —Continued.

TURN AMONG THE
N.

o or from the company (with
apprehensions, surrenders,
is, &c., will be accurately
harge, death, desertion, &c.

in the same order as on the
)

RETURN OF

Company (G), 6th Regiment of Cavalry.

For the month of January, 1885.

Date.	Place.	REMARKS.
Jan. 15, 1885 . .	Fort Arbitrary, Kan.	Re-enlisted in Co.
Jan. 20, 1885 . .	" "	Assigned to Co. per Orders No. 3, Hdqrs., 6th Cav., C. S.
Jan. 17, 1885 . .	" "	Assigned to Co. per Orders No. 1, Hdqrs., Cav. Rec. Serv., C. S.

This return includes everything that takes place in the Company up to 12 o'clock midnight, of the last day of the month; and if serving at a Post or Fort, the retained or duplicate copy is sent to the Post Headquarters, in order that the post return may be made correctly, while the original is forwarded to the Regimental Adjutant. If the regiment is in the field, then the original is merely sent as usual to the Regimental Headquarters.

Food is furnished to troops in the shape of what are termed "rations," these being obtained from the Subsistence Department of the Army, on "ration returns," sent in for the approval of the regimental, post, or detachment commander, on the 10th, 20th, and last days of each month, and sometimes oftener, in the field. All men who are taking meals, or are fed from the company mess, must be included. Those in hospital or absent on detached service must not be included in the number for which the rations are drawn.

With the Company Commander's permission, a married man or men may be allowed to draw upon a separate return, (usually made out at the first of the month, to include the entire month,) in order that they may be better able to take care of their families.

A ration is the established daily allowance of food for one person. For the United States Army, it is composed as follows:

12 oz. of pork or bacon, or $1\frac{1}{4}$ lbs. of fresh beef, or 1 lb. 6 oz. of salt beef;

1 lb. 2 oz. of soft bread or flour, or 16 oz. of hard bread, or $1\frac{1}{4}$ lbs. corn meal;

15 lbs. of beans or peas to every 100 rations, or 10 lbs. of rice or hominy;

10 lbs. of green coffee, or 8 lbs. of roasted (or roasted and ground) coffee, or 2 lbs. of tea to 100 rations;

15 lbs. of Sugar,	} to 100 rations.
4 qts. of Vinegar,	
4 lbs. of Soap,	
4 lbs. of Salt,	
4 oz. of Pepper,	

And to troops in the field when necessary, 4 lbs. of yeast powder to the 100 rations of flour, and 1 lb. 8 oz. of adamantine or star candles. And when troops are traveling by cars, stages, transports, or otherwise than on the march, or when for short periods they may be so separated from cooking facilities as to render it impracticable to cook their rations:

Per	In lieu of flour	{ 112½ lbs. of soft bread or 100 lbs. of hard bread.
100	In lieu of the usual meat portion	{ 75 lbs. canned fresh beef, or 75 lbs. canned corned beef.
Rations.	In lieu of the dry vegetable portion	{ 33.1 lb. cans baked beans, or 20.2 lb. cans baked beans, or 15.5 lb. cans baked beans.

And liquid coffee may also be furnished under the above circumstances of traveling, in lieu of the coffee and sugar portion of the ration, provided the cost does not exceed twenty-one cents per man per day.

The following form must always be prepared in order to draw rations from the Subsistence Department:

R/

Number of Men.
48

No

RATION-RI

OF

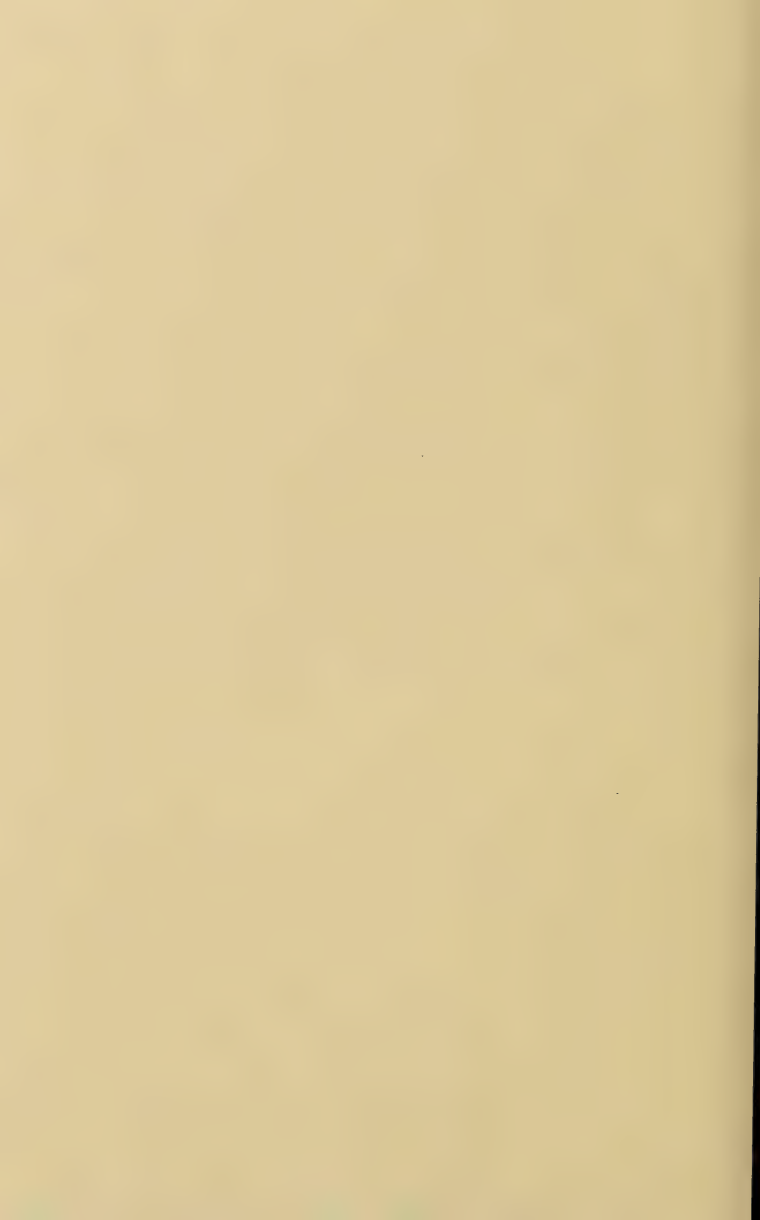
Co., Reg't o

FOR THE PERI

. day of .

TO

. day of . .



RATION-RETURN of *M Company, 5th Regiment of Cavalry, stationed at Fort Mahone for 10 days, commencing the 1st day of January, 1885, and ending the 10th day of January, 1885.*

			NUMBER OF RATIONS OF—																							REMARKS.								
48	10	480	Number of Men.	Number of Days.	Number of Rations.	Pork.	Bacon.	Salt Beef.	Fresh Beef.	Mutton.	Fresh Beef, canned.	Corned Beef, canned.	Fish, dried.	Fish, pickled.	Flour.	Hard Bread.	Corn-meal.	Beans.	Baked Beans, canned.	Peas.	Rice.	Hominy.	Coffee.	Tea.	Sugar.	Vinegar.	Adamantine Candles.	Soap.	Salt.	Pepper.	Yeast Powder.			
48	10	480	180	300	480	.	.	200	.	.	280	.	480	.	480	480	.	480	480	480	.	.		Strength of Co. . . 54 In Hospital . . . 2 In Confinement. 3 Married men . . 1 6 48

The A. C. S. will issue on the above return.

BEN. Y. WORROM,

Col. 3d Reg't of Inf., Comd'g Post.

B. F. STARR,

Capt. 3d Reg't of Infantry, Comd'g Company.

NOTES.—Rations should ordinarily be drawn for a few days at a time.

This Ration-Return must embrace only the *actual* strength of the company *present*.

The sick in hospital, and authorized attendants therein, will be returned for by the Medical Officer in charge, on a *separate* Ration-Return.

When men leave their company, the rations they have drawn and left with it shall be deducted from the next Ration-Return for the company; a like rule when men are discharged from hospital shall govern the hospital Ration-Return.

When rations are drawn for a few persons separately from their organized company, hospital, or mess, the names of such persons will be written on the back of the Ration-Return.

When troops are detached from a post or command, the Commanding Officer of each company or smaller detachment will be furnished by the Commissary of such post or command with a certificate setting forth the date to which rations were last issued by him, and the rations (if any) due, but not issued, which certificate will be presented to the Commissary, from whom rations may next be drawn, who will enter upon the Ration-Return the name of the officer who made the issue referred to in the certificate, and transmit the certificate to the Commissary-General of Subsistence with his Abstract of Issues. Similar certificates will, under like circumstances, be given to employes entitled to rations.

Every Ration-Return upon which issues have been made must be entered on the *proper* Abstract.

RATION-RETURN

OF

Co.,, Reg't of

FOR THE PERIOD FROM

. day of,

TO

. day of, 188 .

WAR.

ETURN

f

OD FROM

. ,

. , 188 .

Should any soldier desire to purchase any stores kept by the Subsistence Department, other than his rations, he may be allowed to do so by sending in a request as follows:

FORT OMAHA, NEB., *March 16, 1882.*

The A. C. S.* will sell to Pvt. Hanscomb, Co. "K." 254 V. R. C., for cash, the following subsistence stores, viz.: Two (2) cans Peaches, one (1) Ham, one (1) box Crackers, or whatever the stores may be.

Approved: By order of Colonel NICART.

CLARK JAMES,

PIERCE BUTLER,

Captain 254 V. R. C.

1st Lieut. & Adj. 4th Inf. & Post.

The following report must be furnished the Post or Regimental Adjutant every Sunday morning :

*List of Extra and Daily Duty Men of Company B., 4th Infantry,
for the week ending January 26, 1885.*

No.	NAME.	RANK.	HOW EMPLOYED.	DATE OF DETAIL.	AUTHORITY.
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EXTRA DUTY.

1	Jos. A. Tubbs .	Serg't.	Charge of Working party	Sept. 1, 1884	Or. No.84,1884
2	Wm. Smith . .	Private	Teamster of Q.M.D. . .	Oct. 10, 1884	Or. No.95,1884
3	James Dunn . .	"	School teacher	Aug. 5, 1884	Or No.70,1884

DAILY DUTY.

1	Thos. J. Krebs.	Corp'l.	In ch. Co. Kitchen . . .	Jan. 1, 1885.	Co. Com'r.
2	Sam'l S. Nibbs .	Private	Co. Cook	" 1, 1885.	"
3	Frank North . .	"	"	" 1, 1885.	"
4	Simeon Pratt . .	"	Co. Clerk	Apr. 2, 1883.	"
5	Thos. J. Royall.	"	Post Baker	Oct. 1, 1884.	Post Com'r.

Fort Mahoa, Nebraska,
July 26, 1885.

B. F. STARR,
Capt. 4th Inf., Commanding Co.

*A. C. S., Assistant Commissary of Subsistence.

Voucher No., Abstract K, Quarter, 188 .

Captain Barnwell Holmes,

19th Infantry.

SPECIAL REQUISITION.

To be in duplicate: one copy to be retained by the officer who issues the property, one to be sent to the Quartermaster General with Abstract K, at the end of the quarter.

The cost of articles issued or transferred on special requisition and orders of commanding officers, will be entered on the requisition and on the list or invoice furnished the receiving officer.

If the Quartermaster has the property on hand, he will take the receipt of the officer to whom he issues or transfers it on this form, and will file it with Quarterly Abstract K.

If the Quartermaster has not the property on hand, he will submit the Special Requisition to the commanding officer for orders.

If he is ordered to purchase it, the requisition, with the order, will be filed with the purchase vouchers.

REQUISITION for Fuel, Forage, Straw, Illuminating Supplies, and Marion
Nebraska, on the 1st day of

BY WHOM OR FOR WHAT PURPOSE REQUIRED.	PERIOD.			NUMBER OF—												FUEL		WHERE
	From—	To—	Days.	Colonels.	Lt. Colonels and Majors.	Captains.	Subalterns.	N. C. Staff, &c.	N. C. Officers, Privates, &c.	Laundresses.	Private Horses.	Public Horses.	Mules.	Fires.	WOOD			
															Hard.	Soft.		
																	Cds.		Ft.	In.	Cds.	Ft.
Command'g Officer, Co. "O," 2d Battn, 41st Independents.	1885 May 1	1885 May 31	31	.	.	1	2	.	30	.	.	.	.	.	.	.	.	Boston, M Baltimore New York Buffalo, N Cleveland
REQUIRED . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	New York
ON HAND TO BE DEDUCTED . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	New Orleans
TO BE SUPPLIED . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	Camden, Fort Mifflin

I CERTIFY that the above requisition is correct and just; that the articles required are on hand at the following places:

APPROVED:
H. A. DAYTON, Lt. Col. 8th Inf., Commanding

RECEIVED at Fort Omaha, Nebraska, on the first day of May, 1885, of 1st Lieutenant [Name], specified in the above requisition.
(SIGNED IN DUPLICATE.)

Fort Mac
New York
Jersey City
Salem, Mass.
Chicago,



THE LINE OF THE ARMY.

67

REQUISITION for Fuel, Forage, Straw, Illuminating Supplies, and Matches for Company O, 2d Battn., 41st Independents, at Fort Omaha, Nebraska, on the 1st day of May, 1885. (See page 64.)

BY WHOM OR FOR WHAT PURPOSE REQUIRED.	PERIOD.			NUMBER OF—										FUEL.						FORAGE.		STRAW.	MINERAL OIL.		ARTICLES FOR LAMPS.					ARTICLES FOR LANTERNS.		MATCHES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	From—	To—	Days.	Colonels.	Lt. Colonels and Majors.	Captains.	Subalterns.	N. C. Staff, &c.	N.C. Officers, Privates, &c.	Laundresses.	Private Horses.	Public Horses.	Mules.	Fires.	WOOD.						Anthracite.	Bituminous	Oats.	Corn.	Barley.	Hay.	Fodder.	For Bedding.	Pounds	Gallons	Oz.		Wicks.	Chimneys.	Fonts.	Valves.	Valve Corks	Burners.	Chimney Holders.	Wick Tubes.	Wicks.	Globes.	Burners																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
															Hard.	Soft.			Kindling.	Pounds																								Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds

I CERTIFY that the above requisition is correct and just; that the articles required have not been previously drawn for any part of the time above charged.

APPROVED:

H. A. DAYTON, Lt. Col. 8th Inf., Commanding

D. Y. KNOWLES,
Captain 2d Battn., 41st Ind., Comd'g Co. "O."

RECEIVED at Fort Omaha, Nebraska, on the first day of May, 1885, of 1st Lieut. Byron MacGhee, 2d Battn., 41st Ind., A. A. Quartermaster, U. S. A., all the articles specified in the above requisition.

(SIGNED IN DUPLICATE.)

D. Y. KNOWLES,
Captain 2d Battn., 41st Ind., Comd'g Co. "O."

REMARKS.

The authority for issues not provided for in Regulations should be given.

The kind of coal issued, and its equivalent to a cord of hard wood, should be stated.

(See page 64.)

Voucher No. , Abstract G,

. quarter, 18 .

REQUISITION

FOR

FUEL, FORAGE, STRAW, ILLUMINATING SUPPLIES,
AND MATCHES,

REQUIRED BY

Capt. D. Y. Knowles, 2d Battn., 41st Ind.,

Comd'g Company "O,"

Issued May 1st, 1885.

To be in duplicate; one copy retained by issuing officer, one sent to the Quartermaster General with Abstract G.

This form of requisition is used for a post, regiment, company, detachment, and single officer of whatsoever rank.

When used as a consolidated requisition the Post Quartermaster will, in lieu of the receipt, certify that he has issued all the articles specified, &c.

The approval of the commanding officer is required only for issues that are regulated by him, such as fuel to hospital, guard-house, chapel, &c.

The actual strength of the troop, company, or detachment is to be considered in determining the quantity of the supplies issued to it for illuminating purposes.

Matches for Company O, 2d Battn., 41st Ind.,
May, 1885. (See page 64.)

JEL.				FORAGE.						STRAW.	MINERAL OIL.			
Kindling.				COAL.		Oats.	Corn.	Barley.	Hay.	Fodder.	For Bedding.	Gallons	Oz.	No.
				Anthracite.	Bituminous									
lbs.	Cds.	Ft.	In.	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds			
.	5962	.	.	.	.	.	480	7	8	6
.	5962	.	.	.	.	.	480	7	8	6
.
.	5962	.	.	.	.	.	480	7	8	6

ired have not been previously drawn for any part o

Captain 2d Batt

t. Byron MacGhee, 2d Battn., 41st Ind., A. A. Quar

Captain 2d Battn

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MUSTER-ROLL of *Captain George C. Marion*

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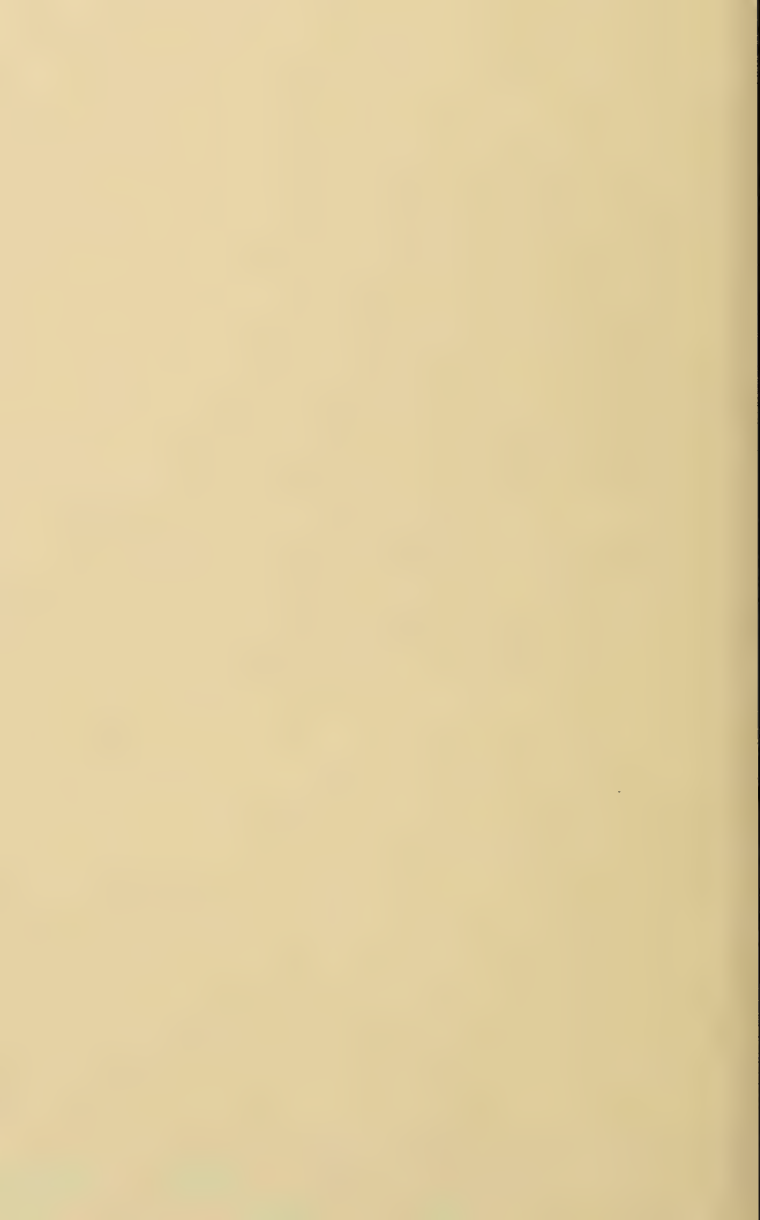
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No.	NAMES. PRESENT AND ABSENT. (Commissioned and non-commissioned officers according to rank. Privates in alphabetical order.)	RANK.	E	
			WHEN.	WHERE.
1	George C. Marion . . .	Captain . .	. . . . .	. . . . .
2	Walter F. Simms . . .	1st Lieut. .	. . . . .	. . . . .
3	Frank B. Summers . . .	2d Lieut. .	. . . . .	. . . . .
1	Benjamin F. Stone . . .	1st Sergeant.	8 Ap'l '82	Boston, M
2	John L. Hyde	Sergeant . .	4 June '80	Baltimore
3	James Cleary	Sergeant . .	10 Sept. '83	New York
4	Anson M. Clarke . . .	Sergeant . .	5 Aug '82	Buffalo, N
5	Nathan W. Drum. . . .	Sergeant . .	8 Dec. '83	Cleveland
1	Frank Josephs	Corporal . .	7 July '81	New York
2	George Donahue	Corporal . .	5 Sept. '82	New Orleans
3	Wm. Boston	Corporal . .	9 Oct. '83	Camden,
4	Henry Clyde	Corporal . .	4 Jan. '84	Fort Man
1	John F. Bundle	Trumpeter.	5 Mar. '84	Fort Mac
2	Fred. L. Custom	Trumpeter.	10 Jan. '84	New York
1	Thomas Larkin	Artificer . .	25 Ap'l '82	Jersey City
1	Adams, Wm. B.	Private . .	9 Mch '84	Salem, M
2	Belton, Henry M. . . .	Private . .	12 Oct. '83	Chicago,



13. All officers, non-commissioned officers, and others that may be concerned in the preparation of this roll, are enjoined to exercise every care that it be made complete. It is not only the guide for immediate payment of the troops interested, but when filed in the Adjutant General's Office, it will become the record to which reference will thereafter be made in the investigation and settlement of all claims or questions affecting officers and men whose names are borne on the roll, and their heirs, for the period covered by it. 

INSTRUCTIONS FOR THE PREPARATION OF MUSTER-ROLLS. (See page 64.)

1. All officers and enlisted men are to be taken up on the rolls from the date of receipt of notice of their assignment by competent authority, whether they have yet joined or not. Care should be taken to have names of soldiers and dates of enlistment correct.
2. The use of dots and of the word "ditto" is prohibited.
3. Under the head of Remarks must be carefully stated opposite the name of the person concerned :
 - a. The date when any assignment takes effect, with the No., date, &c., of order therefor ;
 - b. The date that any officer or enlisted man joins, whether originally or from any absence ;
 - c. The date an officer assumes or is relieved from any command or special duty ;
 - d. The description of any special, extra, or daily duty on which officers or enlisted men may be employed ;
 - e. All changes of rank by promotion, appointment, or reduction, with dates of same, and Nos., dates, &c., of orders ;
 - f. All authorized stoppages, fines, sentences, with Nos., dates, &c., of orders ;
 - g. All cases of absence, the nature and commencement of, and periods authorized for same, with Nos., dates, &c., of orders, and this must be repeated on every roll while such absences continue ; and when the absence be on detached service, sick, or in confinement, the place of absence must be set forth ;
 - h. All cases of sickness, injuries, or wounds, and whether or not contracted while in the performance of some duty, and the nature and location of wounds or injuries ;
 - i. All cases of confinement ; and when by civil authority the nature of the offenses, whether prisoners have been held for trial, tried, or discharged without trial, and, when tried, whether acquitted or convicted, with dates, &c. ;
 - k. Everything else necessary to account fully for every individual, so as to insure justice to him and to the United States.
4. In noting stoppages to be made for losses of or damage to public property, the amounts due for ordnance, for quartermaster's property, &c., will be separately stated in gross amount for each.
5. Additional pay, due under sec. 2, act of Aug. 4, 1854, will be thus noted, viz : \$2 per month for five years' continuous service ; \$3 per month for ten years' continuous service ; \$4 per month for fifteen years' continuous service, &c. ; that due under secs. 1216 and 1285, Revised Statutes, thus : " For certificate of merit, \$2 per month." If a soldier is entitled to reenlisted pay under sec. 3, act of May 15, 1872, the fact will be stated as follows : " Entitled to re-enlisted pay."
6. The names of those belonging to the company, battery, or troop, will be immediately followed by those of the officers and enlisted men who have ceased to belong to it since last muster. These will be classed in the following order, viz : Discharged, transferred, died, deserted ; and the utmost particularity will be observed in the remarks concerning them ; dates and places will in every case be given ; and Nos., dates, &c., of orders, or description of authority, be always carefully specified. When soldiers are retained in service beyond the period for which they were enlisted, as shown by the date of their enlistments, the causes of such retention must be stated. The names of soldiers discharged and re-enlisted, or who have deserted and have joined from desertion since last muster, must be placed both in the body of the roll and under the appropriate headings as having been discharged, having deserted, &c. In cases of desertion, the facts, whether of apprehension or surrender, with dates and places, will be stated.
7. The remark " discharge and final statements given " will be made opposite to the name of every discharged soldier to whom such papers have actually been given. The blank spaces under the head of " last paid " are to be filled in. The character given on the discharge will be noted on the roll.
8. Upon the transfer, desertion, death, or discharge of a soldier, the balance for clothing due the United States, or due the soldier, will be entered upon the roll.
9. The ruled columns for continuous-service pay and clothing must not be used for other purposes.
10. Actions in which the company, battery, troop, or any portion of it has been engaged, scouts, marches, changes of station, everything of interest relating to the discipline, efficiency, or service of the command, will be minutely and carefully noted, with dates, places, distances marched, &c. ; and also names of men who took part in scouts or actions in which the command was not engaged.
11. Books of tactics, instructions, &c., and blank forms which have been superseded by others, will not be accounted for on this roll.
12. Within three days after each regular muster, the mustering officer will transmit to the Adjutant General U. S. Army a copy of the muster-roll of each company, battery, or troop. Blanks will be supplied from the Adjutant General's Office, and will be accounted for on the muster-rolls.

ART OF WAR.

70.

MUSTER-ROLL of Captain George C. Marion . . . , (K,) of the Tenth Regiment of Cavalry, Army of the United States (Colonel

No.	NAMES. PRESENT AND ABSENT. (Commissioned and non-commissioned officers according to rank. Privates in alphabetical order.)	RANK.	ENLISTED.				LAST PAID.		DUE SOLDIER FOR CONTINUOUS SERVICE.		DUE U. S.			
			WHEN.	WHERE.	BY WHOM.	PERIOD. Years.	BY PAYMASTER.	TO WHAT TIME.	Years.	Per Month.	FOR CLOTHING.		Dolls.	Cts.
1	George C. Marion . . .	Captain . .	.	.	.	.	.	.	.	.	.	.	.	.
2	Walter F. Simms . . .	1st Lieut. .	.	.	.	.	.	.	.	.	.	.	.	.
3	Frank B. Summers . . .	2d Lieut. .	.	.	.	.	.	.	.	.	.	.	.	.
1	Benjamin F. Stone . . .	1st Sergeant.	8 Ap'l '82	Boston, Mass. .	Capt. Somers.	5 yrs. .	John Strong.	30 June '84	15	4	.	.	.	.
2	John L. Hyde . . .	Sergeant . .	4 June '80	Baltimore, Md. .	Lt. White . .	5 yrs. .	A.S. Retow.	30 April '84	5	2	.	.	.	.
3	James Cleary . . .	Sergeant . .	10 Sept. '83	New York City.	Lt. Smith . .	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.
4	Anson M. Clarke . . .	Sergeant . .	5 Aug '82	Buffalo, N. Y. .	Lt. Fitch . .	5 yrs. .	John Strong.	30 June '84	10	3	.	.	.	.
5	Nathan W. Drum . . .	Sergeant . .	8 Dec. '83	Cleveland, O. .	Capt. Dove . .	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.
1	Frank Josephs . . .	Corporal . .	7 July '81	New York City.	Lt. White . .	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.
2	George Donahue . . .	Corporal . .	5 Sept. '82	New Orleans, La.	Lt. Mercer . .	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.
3	Wm. Boston . . .	Corporal . .	9 Oct. '83	Camden, N. J. .	Lt. Wheeler .	5 yrs. .	John Strong.	30 June '84	15	3	.	.	.	.
4	Henry Clyde . . .	Corporal . .	4 Jan. '84	Fort Mandy, Col.	Lt. Wherry . .	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.
1	John F. Bundle . . .	Trumpeter.	5 Mar. '84	Fort Macon, Cal	Capt. Benson.	5 yrs. .	John Strong.	30 June '84	5	2	.	.	.	.
2	Fred. L. Custom . . .	Trumpeter.	10 Jan. '84	New York City.	Capt. Adams.	5 yrs. .	Paydue from enlistment	.	.	.	.	.	.	.
1	Thomas Larkin . . .	Artificer . .	25 Ap'l '82	Jersey City, N. J.	Lieut. Borden.	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.
1	Adams, Wm. B. . . .	Private . .	9 Mch '84	Salem, Mass . .	Lieut. Bonney.	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.
2	Belton, Henry M . . .	Private . .	12 Oct. '83	Chicago, Ill. . .	Lieut. Small .	5 yrs. .	John Strong.	30 June '84	.	.	.	.	.	.

ART OF WAR.

. . . , (K), of the Tenth Regiment of Cavalry, Army of the United States (Colonel)

UNLISTED.			LAST PAID.		DUE SOLDIER FOR CONTINUOUS SERVICE.		DUE U. S.			
NAME.	BY WHOM.	PERIOD. Years.	BY PAYMASTER.	TO WHAT TIME.	Years.	Per Month.	FOR CLOTHING.		Dolls.	Cts.
						Dolls.	Dolls.	Cts.	Dolls.	Cts.
Mass.	Capt. Somers.	5 yrs.	John Strong.	30 June '84	15	4				
, Md.	Lt. White . .	5 yrs.	A.S. Retow.	30 April '84	5	2				
City.	Lt. Smith . .	5 yrs.	John Strong.	30 June '84						
, Y.	Lt. Fitch . .	5 yrs.	John Strong.	30 June '84	10	3				
, O.	Capt. Dove .	5 yrs.	John Strong.	30 June '84						
City.	Lt. White . .	5 yrs.	John Strong.	30 June '84						
ns, La.	Lt. Mercer . .	5 yrs.	John Strong.	30 June '84						
N. J.	Lt. Wheeler .	5 yrs.	John Strong.	30 June '84	15	3				
ly, Col.	Lt. Wherry .	5 yrs.	John Strong.	30 June '84						
on, Cal.	Capt. Benson.	5 yrs.	John Strong.	30 June '84	5	2				
City.	Capt. Adams.	5 yrs.	Paydue from	enlistment						
, N. J.	Lieut. Borden.	5 yrs.	John Strong.	30 June '84						
ass . .	Lieut. Bonney.	5 yrs.	John Strong.	30 June '84						
Ill. . .	Lieut. Small .	5 yrs.	John Strong.	30 June '84						

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RECAPITULATION.		Captain.	1st lieutenants.	2d lieutenants.	Brevet 2d lieutenants	1st sergeant.	Sergeants.	Corporals.	Buglers.	Musicians.	Farriers and blacksmiths.	Artificers.	Privates.	Total commissioned.	Total enlisted.	Aggregate.
ABSENT. PRESENT	For duty	1	1	1		1	2	4	2			1	42	3	53	56
	On extra or daily duty						1						4		5	5
	Sick												3		3	3
	In arrest or confinement.												2		2	2
	On detached service.															
	With leave						1						1		1	1
	Without leave												1		1	1
	Sick												2		2	2
In arrest or confinement.												3		3	3	
STRENGTH—PRESENT & ABSENT.		1	1	1		1	4	4	2			1	58	3	71	74
Alterations since Last Muster.	Joined.	Recruits from depots								1					1	1
		Enlisted in company											1		1	1
		By re-enlistment								1			1		2	2
	Discharged.	By transfer or appointment											1		1	1
		From desertion														
		Resigned.														
	Died.	Expiration of service											1		1	1
		For disability											1		1	1
		By sentence of g. c. martial											1		1	1
	Died.	By civil authority.														
		By order														
		Transferred.											1		1	1
	Deserted.	Killed in action.														
		Of wounds														
		From disease, &c														
		Deserted														
10	Number of recruits required	70	Serviceable horses										Memo-randa.			
	Wounded in action	2	Unserviceable horses.													
8	Muster and Pay Rolls	1	Army Regulations										Account of Books and Blanks Remaining on Hand. (See note 11.)			
16	Monthly Returns.	1	Artillery Tactics (Light)													
12	Returns of Men Joined Company.		Artillery Tactics (Heavy)													
	Recruiting Party Returns.		Bayonet Exercise													
	Enlistments	1	Cavalry Tactics													
	Furloughs	12	Infantry Tactics													
16	Descriptive Lists		Outpost Duty													
50	Final Statements		Instructions to Officers of Adjutant General's Dept													
25	Discharges.	2	Target Practice													
15	Certificates of Disability		Regulations for Recruiting Service													
	Inventories of Effects of Deceased Soldiers.	1	Ordnance Manual													
			Ordnance Regulations													

RECORD OF EVENTS WHICH MAY BE NECESSARY OR USEFUL FOR FUTURE REFERENCE AT THE WAR DEPARTMENT, OR FOR PRESENT INFORMATION.

Pursuant to instructions contained in Orders No. 12, Fort Macon, Col., C. S., the Company marched to Fort Craig, N. M., distance 225 miles, and there took station. Plenty of grass and water en route.

I certify, on honor, that this muster-roll is made out in the manner required by the printed instructions; that it exhibits the true state of Captain George C. Marion's Co. (K), of the Tenth Regiment of Cavalry, for the period herein mentioned; that the remarks set opposite the name of each officer and soldier are accurate and just; and that the recapitulation

exhibits in every particular the true state of the Company as required by Regulations and the Rules and Articles of War.

STATION: Fort Craig, N. M.

DATE: October 31, 1884.

GEORGE C. MARION,

Captain 4th Inf.,

Commanding the Co.

I certify, on honor, that I have carefully examined this muster-roll, and that I have mustered and minutely inspected the Company; the condition of which is found to be as expressed in my remarks hereunto annexed.*

DISCIPLINE:

INSTRUCTION:

MILITARY APPEARANCE:

ARMS:

ACCOUTERMENTS:

CLOTHING:

Very Good.

PETER L. WORMLEY,

Col. 10th Cav.,

Inspector and Mustering Officer

* It is made the special duty of the inspector and mustering officer to add the appropriate remarks touching discipline, instruction, &c., according to the facts determined in the course of his inspection, with such other remarks as may be necessary or useful for the information of the War Department.

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* Tl ne, and will be

† Tl ne—two for the

MUSTER-

Of *Company*

Of the *Tenth* Regiment

From the *thirty-first* day

To the *thirty-first* day of

RECORD OF EVENTS—Continued.

LIST OF ROLLS, RETURNS AND REPORTS REQUIRED FROM TROOP, BATTERY, OR COMPANY COMMANDERS.

DESIGNATION.	WHEN TO BE MADE.	WHEN TO BE LENT.	BY WHOM.*
<i>To Adjutant General.</i>			
Muster-roll of troop, battery, or company †	Every two months	Within three days thereafter.	Mustering officer.
Inventory of effects of deceased soldiers	Immediately	Immediately	Troop, battery, or company commander.
Final statements of deceased soldiers	Immediately	Immediately	Troop, battery, or company commander.
Duplicate certificates of soldiers discharged for disability.	Immediately	Immediately	Post commander.
<i>To the Quartermaster General.</i>			
Duplicate returns of clothing, camp and garrison equipage—one with and one without vouchers.	End of every quarter	Within twenty days thereafter.	Troop, battery, or company commander.
Return of quartermaster's property	End of every quarter	Within twenty days thereafter.	Troop, battery, or company commander.
<i>To the Chief of Ordnance.</i>			
Returns of ordnance and ordnance stores.	End of every quarter, or when an officer is relieved.	Within twenty days thereafter.	Troop, battery, or company commander.
Certificate of inventory on return of ordnance and ordnance stores	Yearly—June 30	Within twenty days thereafter.	Troop, battery, or company commander.
<i>To Regimental Adjutant.</i>			
Return of men joined troop, battery, or company ‡.	End of every quarter	First day of subsequent month.	Troop, battery, or company commander.
Return of the troop, battery, or company.	End of every month.	Within three days thereafter.	Troop, battery, or company commander.
Transcript of orders making temporary appointments of non-commissioned officers, or reducing non-commissioned officers, at posts not regimental headquarters.	Immediately	Immediately	Troop, battery, or company commander.
Abstract of troop, battery, or company fund	End of every quarter	First day of subsequent month.	Troop, battery, or company commander.
<i>To Post Adjutant.</i>			
Morning report of troop, battery, or company	Each morning	Before eight o'clock, a. m.	Troop, battery, or company commander.
Monthly return of troop, battery, or company (to be returned to troop, battery, or company commander for file).	End of every month	First of subsequent month.	Troop, battery, or company commander.
Return of troop, battery, or company fund with troop, battery, or company council book.	End of every 4 months	First of subsequent month.	Troop, battery, or company commander.

The same returns as above are to be made by officers commanding bands or small detachments of troops.

* The commanding officer of the regiment, post, troop, &c., will see that these rolls, returns, &c., are forwarded for his command at the proper time, and will be held accountable therefor.

† Three muster and pay-rolls, in addition to the muster-roll for the Adjutant General, which will be sent direct by mail, are made out at the same time—two for the paymaster, and one to be retained with the troop, battery, or company.

‡ This return is to enable the regimental commander to keep the regimental descriptive book.

Voucher No.

Paid

MUSTER-ROLL

Of *Company "K,"*

Of the *Tenth* Regiment of *Cavalry,*

From the *thirty-first* day of *August, 1884,*

To the *thirty-first* day of *October, 1884.*

WAR.

FOR USE
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1 James D

any, N. Y. Capt.

NOTES.

1. To

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RETURN OF MEN joined Company X, 4th Regiment of Infantry, during the quartr, ending the 30th day of September, 1880. (See page 64.)

NAMES.	RANK.	DESCRIPTION.						WHERE BORN.		OCCUPA- TION.	ENLISTED.				MEMORANDA CONCERN- ING RE-ENLISTED MEN.			REMARKS.
		AGE.	EYES.	HAIR.	COM- PLEXION.	FEET.	INS.	TOWN OR COUNTY.	STATE OR KINGDOM.		WHEN.	WHERE.	BY WHOM.	PERIOD.	Number of Enlistments.	When Last Discharged.	Add'l Pay Per Month.	
1 James Deland .	Recruit .	21 ⁶ / ₁₂	Black .	Brown.	Fair . . .	5	8	Melrose	New Jersey	Machinist .	1 Mar. '84.	Albany, N. Y.	Capt. Cornestaldt .	5 yrs.	..	..	..	Joined by transfer from unassigned recruit R. Q. M., Series of 84.

STATION: Fort Cairness, W. T.
DATE Sept. 30th, 1884.

MYRON GARNSTAFF,
First Sergeant.

1. To be classed in the following order, viz: 1st. Recruits from Depots; 2d. Enlisted in the Regiment; 3d. Re-enlistsd; 4th. By transfer; 5th. From missing in action; 6th. From desertion.
2. This Return will be made out in duplicate by each Troop, Company, or Battery Commander; one copy to be sent to the Commanding Officer of the Regiment, and one to be retained. From these Returns the Regimental Descriptive Book should be made up.—(See paragraph 163, Army Regulations, as amended by G. O. 28, A. G. O., 1883.)

CALEB JOHNSON,
Capt. Co. X, 4th Reg't, Commanding.

RETURN

OF

MEN JOINED

Company X., 4th Regiment of Infantry,

DURING THE

Quarter ending September 30, 1880.

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REQUISITION FOR STATIONERY for Com'd'g Officer Co. "A," 9th Inf.,
stationed at Fort Morgan, Col., for the quarter commencing
on the 1st day of January, 1881, and ending on
the 31st day of March, 1881. (See page 64.)

1	Quires of Foolscap Paper.	
5	Quires of Letter Paper.	
1	Quires of Folio-post Paper.	
	Quires of Envelope Paper.	
10	Sheets of Blotting Paper.	
50	Official Envelopes.	
	Letter Envelopes.	
	Two-quire Blank Books.	
	Three-quire Blank Books.	
1	Bottles of Black Ink, pt.	
1	Bottles of Red Ink, oz.	
	Ounces of Wafers.	
3	Ounces of Sealing-wax.	
20	Steel Pens.	
	Quills.	
	Lead Pencils.	
1	Office Tape.	
1	Bottles of Mucilage, ½ pt.	
	Pieces of Rubber.	
1	Pen Holders	

I certify that the above requisition is correct, and that I have not drawn stationery
for any part of the time specified.

JAMES KNIGHT,
Capt. 9th Inf., Com'd'g Co. "A."

Received at Fort Morgan, Col., on the 1st day of January, 1881, of 2d Lieut. E.
A. Lester, 9th Inf., A. A. Quartermaster, U. S. Army, — quires of foolscap paper,
five quires of letter paper, — quires of folio-post paper, — quires of envelope paper,
ten sheets of blotting paper, fifty official envelopes, — letter envelopes, one bottle
black ink, one bottle red ink, three oz. sealing wax, twenty steel pens, one lead pen-
cil, one piece office tape, one bottle mucilage, one penholder.

JAMES KNIGHT,
Capt. 9th Inf., Com'd'g Co. "A."

[SIGNED IN DUPLICATE.]

[Endorsement.]

Voucher No . . . Abstract H.

First Quarter, 188 .

REQUISITION FOR STATIONERY

FOR

Capt. James Knight, 9th Inf.,

Commanding Co. A,

at Fort Morgan, Col.

To be in duplicate : one copy retained by the officer one sent to the Quartermas-
ter General with Quarterly Abstract H.

Company Fund.

While in barracks, in time of peace, through an economical administration of the affairs of the kitchen, a saving accrues to the company, of part of the rations drawn; this occurs in the salt and cured meats, and principally on sugar and coffee. These things are permitted to accumulate to the credit of the company, in the Subsistence Department, and after the rations are drawn for the last ten days in the month, they are either drawn out and sold to traders or others; or they can be kept in the storehouse, and the Government buys them, paying cash for the same.

These "savings," as they are termed, are better assured when the commander of a company supplies plenty of vegetable diet for his men, such as potatoes, cabbage, beets, turnips, etc., and cultivation of a company garden (which is general throughout the American Army, wherever ground enough can be secured,) increases the fund very much, and in some cases on the Pacific coast has made it astonishingly large.

This fund is kept in the hands of the Captain and all moneys are disbursed by him, for the exclusive benefit of the "mess" of the company. He keeps a strict account of all money received, and from what source, as well as an account of all expenditures. This is kept under a debit and credit head, and at the end of every three months, a form like the one on pages 79, 80, will be forwarded to Regimental Headquarters for subsequent transmittal to the Adjutant General of the Army.

Descriptive List.

Should a soldier be transferred from one organization to another at any time, or be ordered away from his command to some duty elsewhere, it is then necessary, in order that he may have his accounts kept correctly, to send to his new commander what is termed a "Descriptive List," together with an account of pay and clothing. The form is given on pages 81, 82.

Captain Parker's period

DR.		R.
DATE.	FROM	Cts.
1880.	BALANCE	
April 30 .	To Cash	
May 31 .	"	15
June 30 .	"	10
		18
		89
		32
	Number	
	A	
	M	
	J	
	T	
	Authori:	

The above account
 The above payment
 Administration, 11."

See page 78.)

UNT CURRENT

Company Fund

OF

"H," 14th Infantry,

ling

due 30th, 1880.

First Endorsement.

.....

....., 188 .

ctfully forwarded to

.....

.....

.....

Commanding

....., 188 .

THE LINE OF THE ARMY.

79

The directions on the back of this Form must be closely followed.

Captain Parker Float, 14th Infantry, in account current with the Company Fund, of Company "H," 14th Infantry, during the period ending Jan. 30, 1880. (See page 78.)

Dr.

Cr.

DATE.	FROM WHAT SOURCE RECEIVED.	DOLLARS.	CTS.	DOLLARS.	CTS.	DATE.	HOW EXPENDED.	DOLLARS.	CTS.	DOLLARS.	CTS.
1880.	BALANCE ON HAND LAST ACCOUNT, March 31st.	.	.	27	02	1880.	By Cash expended for:				
April 30 .	To Cash from sale of 27 lbs. Pork @ 10c. . . .	2	70			April 30 .	15 pounds lard @ 10½c.	1	57		
	" " " 50 lbs. Rice @ 9c.	4	50	7	20		6 pounds Oatmeal @ 3c.		18		
May 31 .	" " " 38 lbs. Pork @ 10½c.	3	99				20 pounds Flour @ \$2		40		
	" " " 3 gals. Vinegar @ 7c.		21	4	20		16 bushels Potatoes @ 50c	8	00	10	15
June 30 .	" " " 50 lbs. Pork @ 11c.	5	50			May 31 .	3 bushels Onions @ 70c.	2	10		
	" " " 14 lbs. Coffee @ 10c.	1	40	6	90	June 30 .	50 lbs. Butter @ 20c.	10	00	12	10
						June 30 .	50 lbs. Flour @ \$1.80		70		
						June 30 .	4 bottles Ex. Lemon @ 12c.		48	1	18
							Balance remaining on hand			21	89
				45	32					45	32
	Number of rations upon which above saving was made.										
	April, 360										
	May, 385										
	June, 352										
	Total, 1097										
	Authorized bread ration at post, 18 oz										

The above account is correct and just.

STATION: Fort Omaha, Nebraska.

PARKER FLOAT,

The above payments have been made pursuant to appropriations of the Council of Administration, and are approved.

DATE: June 30, 1880.

Captain 14th Infantry,
Commanding Co. "H."

....., Treasurer.

(See page 78.)

ACCOUNT CURRENT

Company Fund

OF

Company "H," 14th Infantry,

For the period ending

June 30th, 1880.

First Endorsement.

.....

....., 188 .

Respectfully forwarded to

.....

.....

.....

Commanding

Rec'd Hdqrs., 188 .

DIRECTIONS.

FOR REGIMENTAL, POST, AND COMPANY FUND ACCOUNTS.

1. Regimental, Post, and Company Fund Accounts will be rendered promptly when due, and great care must be exercised in their preparation.
2. Receipts and expenditures during the period embraced by the account will alone be entered.
3. The gross amounts under each head will alone be carried to the second column of dollars and cents.
4. Letters of transmittal will not accompany the accounts.

FOR REGIMENTAL AND POST FUND ACCOUNTS.

All articles purchased or otherwise obtained must be accounted for upon the Return of Property.

FOR REGIMENTAL FUND ACCOUNTS ONLY.

Amounts received from posts will be entered separately, and the name of the post and the period for which each amount was appropriated will be given.

FOR POST FUND ACCOUNTS ONLY.

1. The receipts will be entered in the following order: 1st, "Balance on hand last account," or "Balance received from ———, Post Treasurer." 2d, "Received from sales of bread, flour, &c." 3d, "Post Trader's assessments," (naming rate.) 4th, "Received from other sources," (the sources and amounts to be specified.)
2. The expenditures will be entered under their appropriate headings and in the following order: 1st, "Expenses of bakery, pay of bakers, &c.," (enumerating items.) 2d, "Appropriations for regimental fund." 3d, "Other appropriations of the Council."
3. Appropriations for the regimental fund will invariably appear in the account embracing the period for which they are made—those for each regiment being specified.
4. The post trader's assessments must appear in the account embracing the period for which they are made.

FOR COMPANY FUND ACCOUNTS ONLY.

1. As a consolidated Abstract is prepared at regimental headquarters, this form will serve for the Company as well as the Post and Regimental Fund Account. When used for the Company Fund Account, the "Return of Property" will be left blank.
2. The number of rations drawn, from which the savings reported were made, will be stated in red ink upon the face of the account.

T OF WAR.

DIRECTIONS.

FOR REGIMENTAL, POST, AND COMPANY FUND ACCOUNTS.

1. Regimental, Post, and Company Fund Accounts will be rendered promptly when due, and great care must be exercised in their preparation.
2. Receipts and expenditures during the period embraced by the account will alone be entered.
3. The gross amounts under each head will alone be carried to the second column of dollars and cents.
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1. As a consolidated Abstract is prepared at regimental headquarters, this form will serve for the Company as well as the Post and Regimental Fund Account. When used for the Company Fund Account, the "Return of Property" will be left blank.
2. The number of rations drawn, from which the savings reported were made, will be stated in red ink upon the face of the account.

h Reg't of Infantry. (See page 78.) •

ENLISTED.				
NAME	Where. (Town and State.)	By Whom.	Period.	By
James	any, N. Y. . . .	Capt. Cornestaldt. .	5 yrs.	Co
Des				

1. Show that the above is a correct transcript from

Maj. Gen'l A. N. Strongberg.

2. Th

3. Th

4. Ad

In the field.

5. Th *ch, 1881.*

6. St

DESCRIPTIVE LIST and Account of Pay and Clothing of James Deland, a Private in Company X, 4th Reg't of Infantry. (See page 78.) •

NAME.	RANK.	DESCRIPTION.						WHERE BORN.		OCCUPA- TION.	ENLISTED.				LAST PAID.	
		Age at Enlistment.	HEIGHT.		Complex- ion.	Eyes.	Hair.	Town or County.	State or Kingdom.		When.	Where. (Town and <i>State</i> .)	By Whom.	Period.	By Paymaster.	To what Time.
			Feet.	Ins.												
James Deland. . .	Pvt. . . .	21 ⁵ / ₁₂	5	8	Fair . . .	Black. . . .	Brown.	Melrose.	New Jersey.	Machinist .	1 Mar., '80.	Albany, N. Y. . . .	Capt. Cornestaldt. .	5 yrs.	Col. Brown. . .	31 August, '80. .

Deserted at Fort Cairnes, W. T., Sept. 15, 1880. Due U. S. for tobacco, 50 c.

NOTES.

1. Should the soldier have been engaged in battle or skirmish it must be mentioned, together with date and place. A full and particular mention will be made of any wounds he may have received in action, also of any other injury or disease, and whether contracted in the line of duty, or not; also location of wound or injury.

2. The "character of the soldier" should be stated in detail when the descriptive list is furnished, and his physical condition noted.

3. The amount of Retained Pay due at date; a complete settlement of the man's Clothing Account made to date, and the amount due to or from him; and the amount due the United States for Tobacco, if any, must be stated.

4. Additional pay, due under Sec. 2, Act of Aug. 4, 1854, will be thus noted, viz: \$2 per month for five years' continuous service, \$3 per month for ten years' continuous service, \$4 per month for fifteen years' continuous service, &c. That due under Secs. 1218 and 1285, Revised Statutes, approved June 22, 1874, thus: "For Cert. of merit, \$2 pr. mo." If a soldier is entitled to re-enlisted pay under Sec. 3, Act of May 15, 1872, it will be stated as follows: "Entitled to re-enlisted pay."

5. The amount of any extra duty pay for which the soldier may be mustered, and which may be still due him, must be noted.

6. Stoppages for loss or damage done to arms or other public property must be noted, and the articles and particular damage to each specified. When stoppages are due under sentence of a Court-
- Martial, a transcript of the same must be entered here: and the amount already stopped must be fully stated, with a reference to the General Order in each case.

7. In every case of desertion, the date, and that of surrender or apprehension, must be given, together with a correct transcript of the order of sentence or pardon, and amount of reward paid, if any.

8. When a soldier is discharged, or dies while in hospital or on detached service, his Descriptive List, if he has one, should be taken up by the officer furnishing Final Statements, indorsed by him with a full statement of the time for which he was allowed pay, CLOTHING ACCOUNT, and all other charges against him or in his favor, so as to comprise a complete exhibit of his account, and retained by the officer for his future information. (In case of death, the Final Statements and Inventories of Effects will be forwarded to the Adjutant General, Washington, D. C.) A true copy of the original Descriptive List will at once be sent to the company commander, notifying him of the soldier's discharge or death, with the indorsements made thereon as to date, place, cause, and character given on discharge, with charges, credits, &c., and the disposition of his effects, if dead, to enable him to enter all the data necessary to a full understanding of the soldier's account on the Muster Roll upon which the soldier's discharge or death is reported.

9. A separate Descriptive List should, as a rule, be given for each man.

I CERTIFY that the above is a correct transcript from the records of this office.

By order Maj. Gen'l A. N. Strongberg.

F. L. ABEEL,
1st Lieut. 30th Inf'ty,
Act'g Adj't General.

H. Q. A. In the field.

15 March, 1881.

ART OF WAR.

(See page 78.)

DESCRIPTIVE LIST

AND

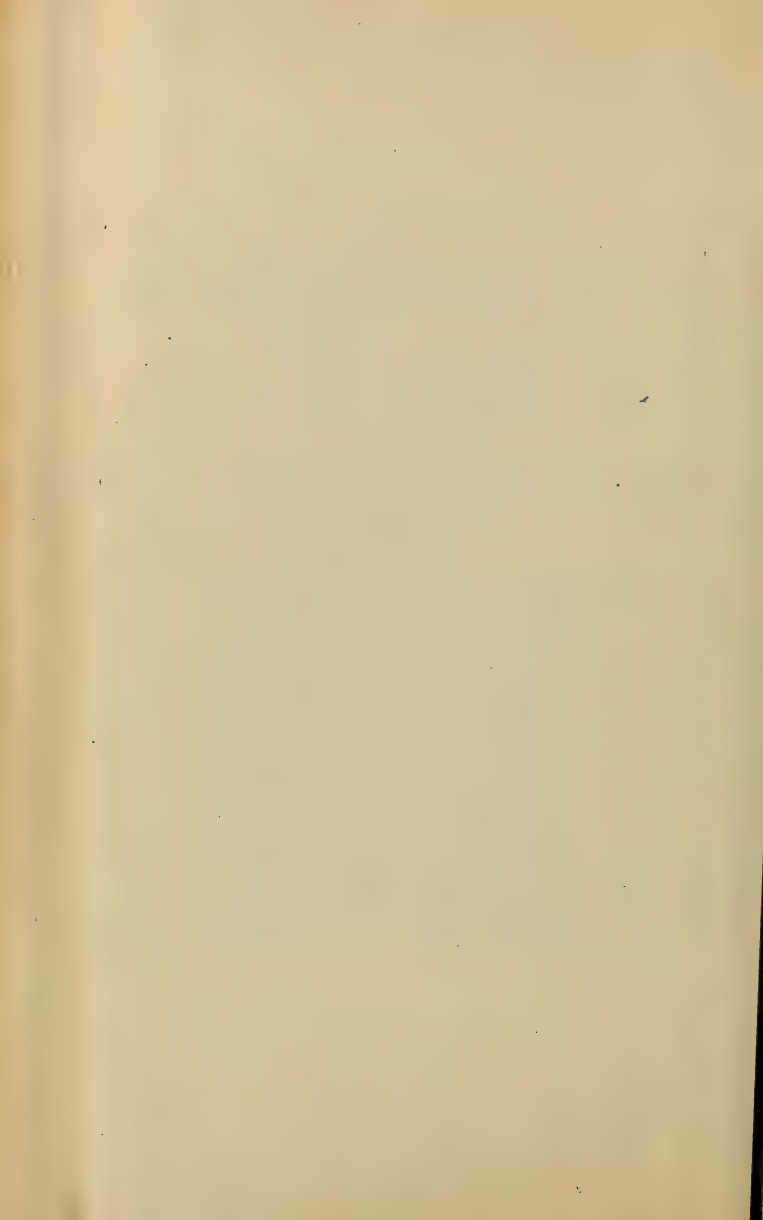
ACCOUNT OF PAY AND CLOTHING

OF

James Deland,

a Private in Company X,

4th Regiment of Infantry.



Return of C. C. and G. E.

On the last days of March, June, September and December, the Quarterly Return of Clothing, Camp and Garrison Equipage must be made to the Quartermaster General of the Army. Under this head is embraced all kinds of clothing, rubber and woolen blankets, all kinds of tents, axes, hatchets, spades, picks, mattresses and mattress covers, pillow cases, mess-pans, camp-kettles, camp-stoves and pipe, order book, letters sent book, with index, and letters received book, with index. All clothing and other stores received during the quarter must be taken up and added to that which was remaining on hand at the end of the previous quarter; all clothing that has been issued during the quarter must be entered on a "Clothing Receipt Roll" opposite the name of the soldier to whom it is issued, with the name and price thereof, and this must be acknowledged by the soldier's signature thereto. This clothing receipt roll then forms a voucher to the return of C. C. and G. Equipage, and is the authority for dropping the articles so issued from the Returns. All articles of clothing issued to soldiers must be entered in the "Clothing Book" of the Company under the name of the party to whom issued, and his name signed as an acknowledgment of having received them.

Axe and hatchet, helves and tent pins, are called expendable property, and may be expended on the certificate of the Company Commander that they have been broken or worn out in the service.

All other property of Camp and Garrison Equipage that becomes unfit for use must be preserved and submitted to an inspector, whose action alone can relieve the officer of responsibility. This "inspection report" also accompanies the return as a voucher.

Articles entrusted to a soldier's keeping for his use or comfort, or for the necessary discharge of his duties, which may be lost or damaged by him, are entered on the "Statement of Charges" opposite the name of the individual losing or damaging the same, together with the price thereof, which amount must also be entered on the succeeding Muster and Pay-Roll in the column of remarks

as "due U. S. \$— for Camp and Garrison Equipage lost or destroyed." The "Statement of Charges" becomes a voucher to the return of C. C. and G. E., and the entry on the Muster and Pay-Roll is the authority for dropping the articles lost, from the return.

Should a soldier feel that he has been unjustly charged, he can apply for, and will have ordered by his Post or Regimental Commander, a Board of Survey, who will take evidence in the case, and decide whether the charge be just or not.

On pages 85-105, is a completed return of Clothing, Camp and Garrison Equipage, together with all vouchers pertaining to the same.

acts and vouchers complete, in duplicate; one copy to be
master General within twenty days after the expiration of
rtains, the other to be retained by the officer for his own

only when the number of invoices or vouchers is greater
provided for them in the Return.

receipts, and abstracts, when used, are the same as those
rns of Quartermaster's Stores, substituting the words
rison Equipage," for "Quartermaster's Stores."

(See page 84.)

QUARTERLY RETURN

OF

CLOTHING, CAMP AND GARRISON EQUIPAGE

RENDERED BY

Captain Wm. H. Cornell, 34th Inf'y,
Commanding Company "G,"

FOR THE QUARTER ENDING ON THE

31st day of March, 1884.

Examined, Q. M. G. O.,, 188 .

Sent to Auditor,, 188 .

Station—Fort Dismal, N. Y.

Received, Q. M. O.,, 188 .

To be made, with abstracts and vouchers complete, in duplicate; one copy to be forwarded to the Quartermaster General within twenty days after the expiration of the quarter to which it pertains, the other to be retained by the officer for his own protection.

Abstracts will be made only when the number of invoices or vouchers is greater than the number of lines provided for them in the Return.

The forms of invoices, receipts, and abstracts, when used, are the same as those prescribed for the Returns of Quartermaster's Stores, substituting the words "Clothing, Camp and Garrison Equipage," for "Quartermaster's Stores."

ART OF WAR.

QUARTERLY RETURN of Clothing, Camp and Garrison Equipage received and issued at Fort Dismal, N. Y.

WHEN RECEIVED.		No. of Invoice.	FROM WHOM RECEIVED.	CLOTHING.																												
				HELMET TRIMMINGS AND METALLIC ORNAMENTS.										METALLIC DRESS AND FORAGE-CAP ORNAMENTS.																		
		Helmets, untrimmed.	Hair plumes.	Cords and bands.	Top pieces & plume sockets.	Top piece and spike.	Eagles.	Numbers, single.	Numbers, double.	Scrolls and rings, pairs.	Side buttons, pairs of	Device for shield of eagle.	Cork helmets.	Dress caps, untrimmed.	Pompons.	Campaign hats.	Cords and tassels for campaign hats.	Forage caps.	Fur caps.	Eagles.	Crescents.	Wreaths.	Letters, U. S. (white metal).	Castles.	Shells and flames.	Crossed sabers.	Crossed cannon.	Crossed rifles.	Bugles.	Letters, brass, "U."	Numbers, brass, "4."	
1st QUARTER, 1884.																																
31 Dec., 1883			On hand per last return.																8	5									16		25	16
7 Jan., 1884	1		1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Q. M.																													
18 Jan., 1884	2		1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Q. M.																													
9 Feb., 1884	3		1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Q. M.																2													
25 Feb., 1884	4		1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Q. M.																2													
12 March, 1884	5		1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Q. M.																2													
21 March, 1884	6		1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Q. M.	1			1	1			1								2													
Total to be accounted for				1				1	1	1			1						14	5									16		25	16
WHEN ISSUED.	No. of Vou.	TO WHOM ISSUED.																														
31 March, 1884	1	Clothing Receipt Roll		1				1	1	1			1						14	5									3		4	10
20 March, 1884	2	Inventory and Inspection Report																														
31 March, 1884	3	Statement of Charges																														
31 March, 1884	4	Expended as per Abstract																														
Total issued				1				1	1	1			1						14	5									3		4	10
On hand to be accounted for																													13		21	6

in the Quarter ending on the thirty-first day of March, 1884, by Captain Wm. H. Cornell, 34th Infantry, commanding Co. "G."

No. of Invoice.		No. of Vou.		CLOTHING.	
1	2	1	2		
1	2	1	2	Buffalo overcoats.	
3	4	3	4	Overcoats.	4
4	5	4	5	Great coats, canvas lined.	
5	6	5	6	Ordnance Sergeants'.	
6		6		Hospital Stewards'.	
				Commissary Sergeants'.	
				Musicians'.	
				Privates'.	2
				Crescents.	
				Castles.	
				Shells and flames.	
				Non-commissioned Staff.	
				1st Sergeants'.	1
				Sergeants'.	1
				Corporals'.	4
				Pioneers'.	
				Farriers'.	
				Service, peace.	1
				Service, war.	1
				Service, campaign	
				Devices for Signal Corps, No.	
				Lined.	17
				Unlined.	
				Stable frocks.	
				Engineers'.	
				Cavalry & Light Artillery.	
				Mounted, made.	
				Mounted, unmade.	
				Foot, made.	3
				Foot, unmade.	19
				Non-commissioned Staff.	
				Sergeants'.	1
				Corporals'.	3
				Shirts, flannel, D. B.	24
				Under shirts, knit.	25
				Drawers, pairs of.	29
				Stockings, woolen, pairs of.	60
				Stockings, cotton, white, pairs of.	39
				Stockings, cotton, mixed, pairs of.	
				Berlin gloves, pairs of.	119
				Mittens, woolen, pairs of.	3
				Fur gauntlets, pairs of.	13
				Boots, pairs of.	6

ART OF WAR.

QUARTERLY RETURN—Continued.

[illegible]

CAMP AND GARRISON EQUIPAGE.

[illegible]



					Camp covers.
.	.	.	.	.	Ambulance guidons.
.	.	.	.	.	Post and field hospital.
.	.	.	.	.	General hospital.
.	.	.	.	.	Alphabet, 1 inch.
.	.	.	.	.	Alphabet, ½ inch.
.	.	.	.	.	Numbers, 1 inch.
.	.	.	.	.	Numbers, ½ inch.
.	.	.	.	.	In boxes, complete sets.
.	.	.	.	.	Corn brooms.
.	.	.	.	.	Scrubbing brushes.
.	.	.	.	.	Barracks chairs.
.	.	.	.	.	Shoe files.
.	
.	
.	
.	
.	

I CERTIFY that the foregoing *R. Q.*
and Garrison Equipage which has
ment, during the Quarter ending

(SIGNED IN DUPLICATE.)

Station—Fort Dismal, N. Y.

Date—March 31st, 1884.

NOTES.—An officer may, at the whom
quartermaster, company commander, or
different capacities in which he

When clothing is needed for issue, the
master on requisition approved person
charged with the clothing until issued in

In all cases, the vouchers should
officer receipting should be filled
the receiving officer and filed with

Erasures and alterations of entries

When public property becomes
or a deficiency is found in it, the
officer, who shall, if necessary, ap

In all cases of deficiency or damage
accountable for the property is re
circumstances of the case, that the
any fault on his part, and, in case o
the damage did not result from ne

An inspection report filed as au
his returns, will not relieve an off
that it has been examined by a bo
to be dropped from return, and de *R. Q.*

Receipts for clothing transferred,
of survey.

Gratuitous issues of clothing ar
hospital attendants who have nurs
as have been destroyed by order
ordered by the Secretary of War.
by act of Congress, as in case of

When it becomes necessary for
credit of the proper appropriation, whom
Treasury as required by G. O. No. 10, his Ab-
office of the Quartermaster General

for this
person
issued in

F	
No. of Invoice.	
1	Dark-blue Cloth, $\frac{9}{16}$.
2	Sky-blue Kersey, $\frac{9}{16}$, light quality.
3	
4	
5	
6	
No. of Vou.	
1	
2	
3	
4	

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QUARTERLY RETURN—Continued.

[illegible]

I CERTIFY that the foregoing Return exhibits a true and correct statement of all the Clothing and Camp and Garrison Equipage which has come into my possession, on account of the Quartermaster's Department, during the Quarter ending on the Thirty-first day of March, 1884.

WM. H. CORNFELL,
Captain 34th Infantry, Comd'g Co "G"

(SIGNED IN DUPLICATE.)

Station—Fort Dismal, N. Y.

Date—March 31st, 1884.

NOTES.—An officer may, at the same time, be accountable for clothing, camp and garrison equipage, quartermaster, company commander, &c., but he should embrace all in one return, specifying thereon the different capacities in which he is acting.

When clothing is needed for issue to the men, the company commander will procure it from the quartermaster on requisition approved by the commanding officer, and the transferring officer will remain charged with the clothing until such approved requisition is filed as authority for the transfer.

In all cases, the vouchers should be made out in full, and the exact number of articles transferred to the officer receipting should be filled out in the receipt before it is signed. Invoices should be furnished to the receiving officer and filed with his return.

Erasures and alterations of entries on a voucher should be explained on the margin.

When public property becomes damaged, except by fair wear and tear, or otherwise unsuitable for use, or a deficiency is found in it, the officer accountable for the same shall report the case to the commanding officer, who shall, if necessary, appoint a board of survey.

In all cases of deficiency or damage of any article of clothing or camp or garrison equipage, the officer accountable for the property is required by law to "show by one or more depositions, setting forth the circumstances of the case, that the deficiency was by unavoidable accident or loss in actual service, without any fault on his part, and, in case of damage, that due care and attention were exerted on his part, and that the damage did not result from neglect."

An inspection report filed as authority for disposing of damaged clothing, and dropping the same from his returns, will not relieve an officer from liability on account of its condition, if there is no evidence that it has been examined by a board of survey. Certificate is required as evidence that articles ordered to be dropped from return, and destroyed, were destroyed as ordered.

Receipts for clothing transferred as "damaged," should be accompanied by proceedings of a board of survey.

Gratuitous issues of clothing are only to be made to soldiers who have had contagious diseases, and to hospital attendants who have nursed and attended such soldiers, to replace such articles of their clothing as have been destroyed by order of the proper medical officers to prevent contagion, and when specially ordered by the Secretary of War.—(G. O. No. 23, A. G. O., 1868.) Relief in money can only be obtained by act of Congress, as in case of other private claims.

When it becomes necessary for officers to pay for deficiencies, the money should be deposited to the credit of the proper appropriation, and certificate of deposit should be forwarded to the Secretary of the Treasury as required by G. O. No. 10, A. G. O., 1874. Money should in *no case* be sent by mail to the office of the Quartermaster General.

ART OF WAR.

return exhibits a true and correct statement of all the Clothing and Camp is come into my possession, on account of the Quartermaster's Depart- on the Thirty-first day of March, 1884.

WM. H. CORNELL,
Captain 34th Infantry, Comd'g Co "G."

Camp cooks.	Ambulance guidons.	Post and field hospital.	
.	.	.	at the same time, be accountable for clothing, camp and garrison equipage, and for the transportation of the same, but he should embrace all in one return, specifying thereon the articles which he is acting.
.	.	.	As to the men, the company commander will procure it from the quartermaster by the commanding officer, and the transferring officer will remain until the proper approved requisition is filed as authority for the transfer.
.	.	.	It should be made out in full, and the exact number of articles transferred to the company should be put in the receipt before it is signed. Invoices should be furnished to the company on his return.
.	.	.	Deficiencies on a voucher should be explained on the margin.
.	.	.	Articles damaged, except by fair wear and tear, or otherwise unsuitable for use, should be reported to the commanding officer, who shall report the case to the commanding officer and appoint a board of survey.
.	.	.	On the receipt of any article of clothing or camp or garrison equipage, the officer receiving it should be required by law to "show by one or more depositions, setting forth the facts, whether the deficiency was by unavoidable accident or loss in actual service, without negligence, or neglect, of damage, that due care and attention were exerted on his part, and that the same was not neglected."
.	.	.	Authority for disposing of damaged clothing, and dropping the same from the company's liability on account of its condition, if there is no evidence of its condition, should be reported to the commanding officer and appoint a board of survey. Certificate is required as evidence that articles ordered destroyed, were destroyed as ordered.
.	.	.	Articles damaged as "damaged," should be accompanied by proceedings of a board of survey.
.	.	.	Relief can only be made to soldiers who have had contagious diseases, and to those who are attended such soldiers, to replace such articles of their clothing and camp or garrison equipage, of the proper medical officers to prevent contagion, and when specially ordered by the commanding officer. (G. O. No. 23, A. G. O., 1868.) Relief in money can only be obtained in cases of other private claims.
.	.	.	When officers to pay for deficiencies, the money should be deposited to the credit of the company, and certificate of deposit should be forwarded to the Secretary of the War Department, A. G. O., 1874. Money should in no case be sent by mail to the company.

Voucher No. 1, 1 Quarter, 1884.

INVOICE of Clothing transferred by 1st Lieut. H. E. Robinson, R. Q.
M., 4th Inf., A. A. Quartermaster, U. S. A., at Fort Omaha,
Nebraska, to Capt. Wm. H. Powell, 4th Inf., Com-
manding Co. "G," at Fort Omaha,
Nebraska.

To be made in duplicate: both to be forwarded or delivered to the officer to whom the articles are transferred. He will retain one and forward the other, with his Abstract E, to the Quartermaster General.

NOTE.—When no invoice is received the receiving officer will substitute for this form of voucher a list of the stores received, certified by himself. When the person responsible for the property entered without invoice is known, it will be entered in his name.

7 Jan.

Voucher No. 2, 1 Quarter, 1884.

INVOICE of Clothing transferred by 1st Lieut. H. E. Robinson, R. Q.
M., 4th Inf., A. A. Quartermaster, U. S. A., at Fort Dismal,
Nebraska, to Capt. Wm. H. Powell, 4th Inf., Com-
manding Co. "G," at Fort Omaha,
Nebraska.

To be made in duplicate: both to be forwarded or delivered to the officer to whom the articles are transferred. He will retain one and forward the other, with his Abstract E, to the Quartermaster General.

NOTE.—When no invoice is received the receiving officer will substitute for this form of voucher a list of the stores received, certified by himself. When the person responsible for the property entered without invoice is known, it will be entered in his name.

INVOICE of Clothing transferred by 1st Lieut. H. E. Robinson, R. Q. M. 4th Inf., A. A. Quartermaster, U. S. Army, at Fort Omaha, Neb., to Captain Wm. H. Powell, 4th Inf., U. S. Army, at Fort Dismal, Neb., on the 7th day of January, 1884.

NUMBER OR QUANTITY.		ARTICLES.	COST WHEN NEW.			Condition when Delivered.	Remarks.
In Figs.	In Words.		Dolls.	Cts.			
8	Eight.	Forage caps	1883.			New.	
5	Five	Fur caps.				"	
4	Four	Overcoats				"	
1	One Pair	Chevrons, Sergt				"	
1	One "	do Service, Peace.				"	
1	One "	do do War				"	
17	Seventeen.	Blouses, lined				"	
3	Three Pair	Trousers, foot, made heavy.				"	
19	Nineteen	do " unmade "				"	
1	One "	do Stripes, Sergt				"	
24	Twenty-four	Shirts, D. B., flannel				"	
25	Twenty-five.	Undershirts, knit.				"	
29	Twenty-nine Pair	Drawers.				"	
60	Sixty	Stockings, woolen.				"	
39	Thirty-nine	do cotton				"	
119	One hundred and nine- teen Pair	Berlin gloves.				"	
3	Three	Mittens, woolen.				"	
13	Thirteen	Fur Gauntlets.				"	
6	Six.	Boots				"	
11	Eleven	Shoes				"	
10	Ten	Arctic Overshoes.				"	
21	Twenty-one.	Blankets, woolen.				"	
2	Two	do rubber.				"	
6	Six	Shirts, gray flannel.				"	
31	Thirty-one Pair	Suspenders.		20		"	
5	Five	Post Shoes.	1	78		"	

Requisition dated January 1, 1884.

I certify that I have this day transferred to Captain Wm. H. Powell, 4th Infantry, U. S. Army, at Fort Omaha, Neb., the articles specified in the foregoing list.
(SIGNED IN DUPLICATE.) H. E. ROBINSON,

1st Lt. R. Q. M., 4th Inf., A. A. Quartermaster, U. S. A.

INVOICE of Clothing transferred by 1st Lt. H. E. Robinson, R. Q. M. 4th Inf., A. A. Quartermaster, U. S. Army, at Fort Omaha, Neb., to Capt. Wm. H. Powell, 4th Inf., U. S. Army, at Fort Omaha, Neb., on the 18th day of January, 1884.

NUMBER OR QUANTITY.		ARTICLES.	COST WHEN NEW.			Condition when Delivered.	Remarks.
In Figs.	In Words.		D. ls.	Cts.			
1	One Pair	Chevrons, 1st Sergeant	45.	83		New.	
4	Four	do Corporal.				"	
3	Three.	Trouser stripes, Corporal				"	

Requisition dated Jany. 18, 1884.

I certify that I have this day transferred to Captain Wm. H. Powell, 4th Infantry, U. S. Army, at Fort Omaha, Neb., the articles specified in the foregoing list.
(SIGNED IN DUPLICATE.) H. E. ROBINSON,

1st Lt. R. Q. M. 4th Inf., A. A. Quartermaster, U. S. A.

Voucher No. 3, 1 Quarter, 1884.

INVOICE of Clothing transferred by 1st Lieut. H. E. Robinson, R. Q. M., 4th Inf. A. A. Q. M., U. S. A., at Fort Omaha, Nebraska, to Capt. Wm. H. Powell, 4th Inf., Commanding Company "G," at Fort Omaha, Nebraska.

Voucher No. 4, 1 Quarter, 1884.

INVOICE of Clothing, C. and G. E. transferred by 1st Lieut. H. E. Robinson, R. Q. M. 4th Inf. A. A. Quartermaster, U. S. A., at Fort Omaha, Nebraska, to Capt. Wm. H. Powell, 4th Inf., Commanding Co. "G," at Fort Omaha, Nebraska.

To be made in duplicate : both to be forwarded or delivered to the officer to whom the articles are transferred. He will retain one and forward the other, with his Abstract E, to the Quartermaster General.

NOTE.—When no invoice is received the receiving officer will substitute for this form of voucher a list of the stores received, certified by himself. When the person responsible for the property entered without invoice is known, it will be entered in his name.

INVOICE of Clothing transferred by 1st Lt. H. E. Robinson, R. Q. M. 4th Inft. A. A., Quartermaster U. S. Army, at Fort Omaha, Neb., to Capt. Wm. H. Powell, 4th Inft., U. S. Army, at Fort Omaha, Neb., on the 9th day of February, 1884.

NUMBER OR QUANTITY.		ARTICLES.	COST WHEN NEW.		Condition when Delivered.	Remarks.
In Figs.	In Words.		Dolls.	Cts.		
2	Two	Forage caps			New.	
1	One.	Uniform coat, Private			"	
2	Two	Blouses, lined			"	
1	One	Trousers, foot, made heavy.			"	
2	Two	" " "unmade, "			"	
2	Two	Undershirts, knit.			"	
2	Two	Drawers.			"	
3	Three	Stockings, woolen			"	
6	Six.	Berlin gloves.			"	
2	Two	Shoes			"	
2	Two	Blankets, woolen.			"	
Requisition dated Feb. 8, 1884.						

I certify that I have this day transferred to Captain Wm. H. Powell, 4th Infantry, U. S. Army, at Fort Omaha, Neb., the articles specified in the foregoing list.
(SIGNED IN DUPLICATE.) H. E. ROBINSON,

1st Lt. R. Q. M. 4th Inft., A. A. Quartermaster, U. S. A.

INVOICE of C., C. and G. E. transferred by 1st Lt. H. E. Robinson, R. Q. M. 4th Inft., A. A. Quartermaster U. S. Army, at Fort Omaha, Neb., to Captain Wm. H. Powell, 4th Inft., U. S. Army, at Fort Omaha, Neb., on the 25th day of February, 1884.

NUMBER OR QUANTITY.		ARTICLES.	COST WHEN NEW.		Condition when Delivered.	Remarks.
In Figs.	In Words.		Dolls.	Cts.		
7	Seven. Pair	Canvas trousers		70	New.	
6	Six	do sack coats		87	"	
7	Seven	do plaited blouses		20	"	
1	One.	Co. Morning Report Book.			"	
48	Forty-eight	Bedsacks, single			"	
Requisitions dated Febry. 22 and 19, 1884.						

I certify that I have this day transferred to Captain Wm. H. Powell, 4th Infantry, U. S. Army, at Fort Omaha, Neb., the articles specified in the foregoing list.
(SIGNED IN DUPLICATE.) H. E. ROBINSON,

1st Lt. R. Q. M. 4th Inft., A. A. Quartermaster U. S. A.

Voucher No. 5, I Quarter, 1884.

INVOICE of *Clothing transferred by 1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Quartermaster, U. S. A., at Fort Omaha, Nebraska, to Capt. Wm. H. Powell, 4th Inf., Commanding Co. "G," at Fort Omaha, Nebraska.*

To be made in duplicate : both to be forwarded or delivered to the officer to whom the articles are transferred. He will retain one and forward the other, with his Abstract E, to the Quartermaster General.

NOTE.—When no invoice is received the receiving officer will substitute for this form of voucher a list of the stores received, certified by himself. When the person responsible for the property entered without invoice is known, it will be entered in his name.

12 Mar.

Voucher No. 6, I Quarter, 1884.

INVOICE of *Clothing transferred by 1st Lieut. H. E. Robinson, R. Q. M., 4th Inf., A. A. Quartermaster, U. S. A., at Fort Omaha, Nebraska, to Captain Wm. H. Powell, 4th Inf., Commanding Co. "G," at Fort Omaha, Nebraska.*

To be made in duplicate : both to be forwarded or delivered to the officer to whom the articles are transferred. He will retain one and forward the other, with his Abstract E, to the Quartermaster General.

NOTE.—When no invoice is received the receiving officer will substitute for this form of voucher a list of the stores received, certified by himself. When the person responsible for the property entered without invoice is known, it will be entered in his name.

21 Mar.

INVOICE of Clothing transferred by 1st Lieut. H. E. Robinson, Regt'l Quartermaster 4th Inf., A. A. Q. M. U. S. Army, at Fort Omaha, Neb., to Capt. Wm. H. Powell, 4th Inf., Quartermaster, U. S. Army, at Fort Omaha, Neb., on the 12th day of March, 1884.

NUMBER OR QUANTITY.		ARTICLES.	COST WHEN NEW.			Condition when Delivered.	Remarks.
In Figs.	In Words.		Dolls.	Cts.			
2	Two	Forage Caps	G. O. 45, A. G. O., series 1883.			New.	
1	One.	Blouse, lined.				"	
1	One Pair	Trousers, foot, unmade.				"	Heavy.
2	Two	D. B. Flannel shirts				"	
2	Two Pair	Stockings, woolen				"	
1	One "	Shoes				"	
2	Two	Blankets, woolen.				"	
Requisition dated March 11, 1884.							

I certify that I have this day transferred to Captain Wm. H. Powell, 4th Infantry, Quartermaster, U. S. Army, at Fort Omaha, Neb., the articles specified in the foregoing list.

H. E. ROBINSON,
1st Lieut. Regt'l. Quartermaster 4th Inf., A. A. Q. M.

(SIGNED IN DUPLICATE.)

INVOICE of Clothing transferred by 1st Lt. H. E. Robinson, R. Q. M., 4th Inf., A. A. Quartermaster U. S. Army, at Fort Omaha, Neb., to Capt. Wm. H. Powell, 4th Inf., U. S. Army, at Fort Omaha, Neb., on the 21st day of March, 1884.

NUMBER OR QUANTITY.		ARTICLES.	COST WHEN NEW.			Condition when Delivered.	Remarks.
In Figs.	In Words.		Dolls.	Cts.			
1	One	Helmet untrimmed				New.	
1	One	Base				"	
1	One	Spike				"	
1	One	Eagle				"	
1	One Pair	Side Buttons				"	
1	One	Numbers, W. M.				"	
2	Two	Forage caps				"	
1	One	Uniform coat, Private				"	
1	One	Blouses, lined				"	
1	One Pair	Trousers foot made heavy				"	
1	One	" " unmade "				"	
1	One	Shirt, D. B. Flannel				"	
4	Four Pair	Stockings, cotton				"	
4	Four	Berlin Gloves				"	
1	One	Shoes				"	
1	One	Suspenders		20		"	
Requisitions dated March 19, 1884.							

I certify that I have this day transferred to Captain Wm. H. Powell, 4th Infantry, U. S. Army, at Fort Omaha, Neb., the articles specified in the foregoing list.

H. E. ROBINSON,
1st Lt. R. Q. M. 4th Inf., A. A. Quartermaster, U. S. A.

(SIGNED IN DUPLICATE.)

WITNESS.

The signature of the witnessing officer is regarded as his certificate that he witnessed in each case the fact of issue, and the acknowledgment and signature of the soldier, and that the several issues were entered separately, and all vacant spaces filled before signature. [See Paragraph 1159, A. R.]

DATE

SIGNATURES.

ISSUE

1st Qu
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Christopher T. Reilly.	C. W. Mason.
Joseph Turner	C. W. Mason,
.	1st Lieut., 4th Infantry.
Joel C. Deats.	C. W. Mason,
.	1st Lieut. 4th Infantry.
Samuel D. Peters. . . .	C. W. Mason.
James Brown.	C. W. Mason.
Jacob W. Bogard. . . .	C. W. Mason.
Joseph Frank.	C. W. Mason.
Frank Balthasar	C. W. Mason.
Edward P. Barron	C. W. Mason.
George R. Bennett . . .	C. W. Mason.
Charles A. Berry. . . .	C. W. Mason.
Edward Blake	C. W. Mason.
George Brandt	C. W. Mason.
William A. Brown	C. W. Mason.
.	1st Lieut. 4th Infantry.
Frank Corneliussen	C. W. Mason.
Nicholas E. Cosgrove.	C. W. Mason.
Charles D. Cox.	C. W. Mason.
Anthony Dunleavy . . .	C. W. Mason.
Robert Easley	C. W. Mason.
Fred L. Ellis	C. W. Mason,
.	1st Lieut. 4th Infantry.

WM. H. CORNELL,
Captain 4th Infantry, Com'd'g Co.

We, the undersigned, Non-commissioned Officers, Artificers, Musicians, and Privates of Company "G," Fourth Regiment U. S. Infantry, do hereby acknowledge to have received of Captain William H. Powell, 4th Infantry, Commanding the Company, the several articles of Clothing set opposite our respective names.

[illegible]

I certify that the Receipt Rules are correct and just, and that the cash value of the clothing has been charged to the men to whom it was issued on their respective Clothing Accounts, or (in case of issues to detachments) on their Descriptive Lists, or certified to their commanding officers.

WM H CONNELL,
Captain 4th Infantry, Comd'g Co

Voucher No. 1, 1st Quarter, 1884.

RECEIPT ROLL
OF
CLOTHING ISSUED TO ENLISTED MEN
OF
Company "G," 4th U. S. Inf'y,
BY
Capt. Wm. H. Powell, 4th Inf'y,
Commanding Company.

To be made in duplicate: one to be retained by the officer, the other to be forwarded to the Quartermaster General with the Quarterly Return, Form No. 45.

The number of articles, with the price of each, and the total value of all the articles issued to a soldier, will be entered in the proper places on the Clothing Receipt Roll before it is signed. Where no issues have been made, blank spaces will be filled thus —.

When a soldier can write his name legibly, he is required to do so on the Receipt Roll; otherwise, his mark, witnessed, is to be substituted.

Except in the cases contemplated by paragraph 2078, A. R., 1881, each signature, whether written by the soldier or acknowledged by mark, must be separately witnessed—

1. By a commissioned officer other than the issuing officer, if there be one present and on duty at the post.

2. In the absence of a commissioned officer, the signature may be witnessed by a non-commissioned officer.

3. In the absence of both commissioned and non-commissioned officers, the issues must be authenticated by affidavit, setting forth the cause of the irregularity, and in verification of the issues as charged.

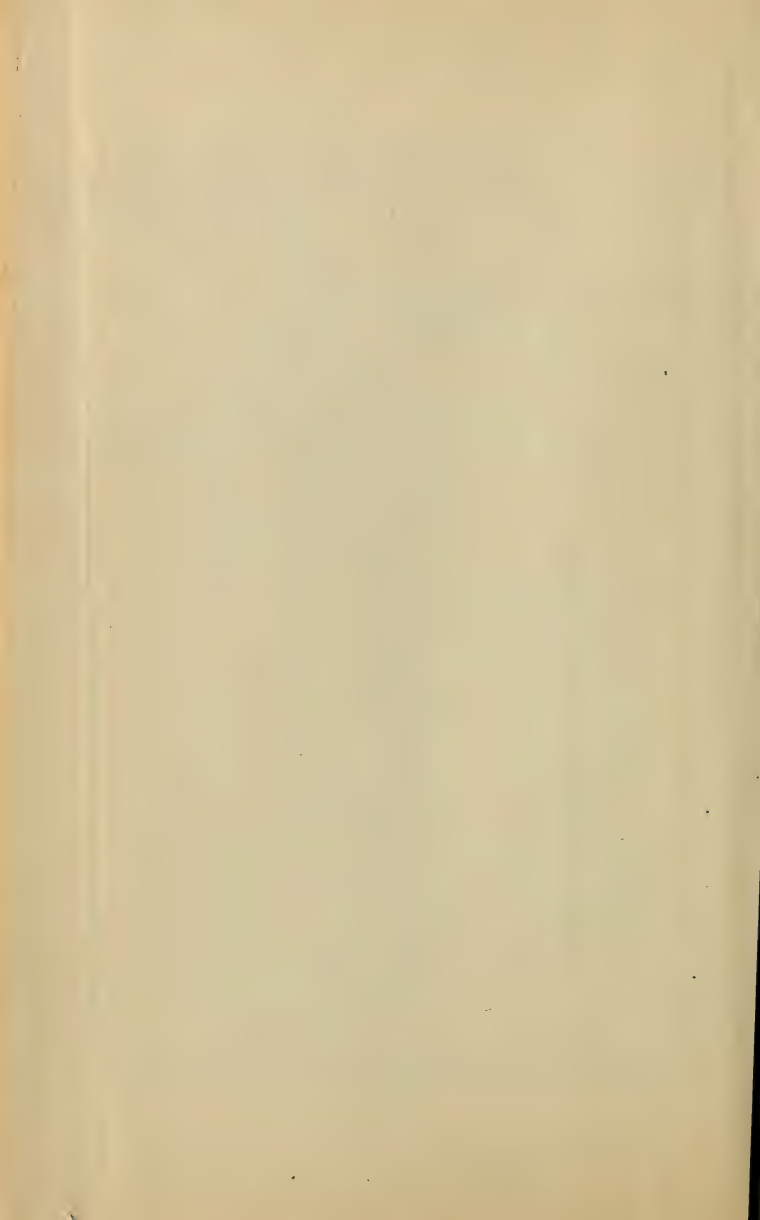
Neither the officer making the issues, and responsible for the supplies, nor a private soldier, is a competent witness to the Receipt Roll.

A Receipt Roll not witnessed is inadmissible as a voucher.

A witness should annex his military title to his signature as evidence of his competency to witness the Receipt Roll.

When one writes the name of another to a receipt he should have legal authority for so doing. This must be in writing, and must accompany the receipt thus signed. (See Digest of Decisions of the Second Comptroller, paragraph 809, edition of 1869.)

Clothing charged to enlisted men and not receipted for at the time of issue should be accounted for by affidavit, setting forth the reasons why their signatures were not obtained



ll, 4th page 84.)

REMARKS.

NOTE.—Whenever practicable, the Inspector will note in this column when, where, and from whom stores were purchased, the name of the purchasing officer or agent, and the marks upon original packages.

Bec	in use	
*M	in use	
Bu	in use	To be used for dish cloths in kitchen. . .
Ax	in use	. . . . .
Tr	in use	. . . . .
Sp	in use	. . . . .
*S	in use	. . . . .

per to be d is as stated above ; that the articles recom-
con s have so certify that the articles found to be utterly

I. D. DE RUSSY,
Major 4th Infantry, A. A. Inspector.

INVENTORY AND INSPECTION REPORT of Clothing, Camp and G. Equipage, for which Capt. Wm. H. Powell, 4th Inf., is responsible, and which have been inspected and reported on by Major I. D. De Russy, A. A. Inspector General. (See page 84.)

INVENTORY.

ARTICLES.	QUANTITY.	RECEIVED BY THE OFFICER NOW RESPONSIBLE.			CONDITION WHEN RECEIVED AT POST, (IF KNOWN.)	HOW RENDERED UN-SERVICEABLE.
		WHEN.	FROM WHOM.	CONDITION WHEN RECEIVED.		
Bed Sacks	Twenty-six (26).	October, '78.	Lieut. Crittenden, 4th Inf.	Serviceable.	Not Known.	By constant use in Company.
Mats, Leather Palms . .	Six (6) Pairs	Not Known.	Not Known.	New	New	By ordinary wear
Bugles with Ex. M. pc . .	One (1)	Not Known.	Not Known.	Not Known.	Not Known.	Worn out in service
Axes	Two (2)	October, '82.	Lieut. Jos. Keeffe, 4th Inf.	New	New	Worn out and broken in service.
Trumpet Cords and Tassels.	Two (2)	October, '78.	Lieut. Crittenden, 4th Inf.	Serviceable.	Not Known.	Worn out and rotten
Spades	One (1)	April, '83.	Lieut. Scott, 4th Inf.	New	New	Worn out and broken in service.
* Sent as samples, to the Company for trial. No price ever established for the same.						

I CERTIFY, *on honor*, that the above is a correct inventory, in every particular, of public property for which I am responsible, which I have personally examined and believe requires the action of an Inspector, and which, to the best of my knowledge and belief, has never been previously condemned.

STATION—Fort Omaha, Nebraska.
DATE—March 1st, 1884.

WM. H. POWELL,
Capt. 4th Inf., Comd'g Co. "G."

INSPECTION REPORT.

NATURE, EXTENT, AND PROBABLE CAUSE OF DAMAGE.	DISPOSITION RECOMMENDED.										REMARKS.
	To be continued in service.	TO BE DROPPED.		To be repaired or repacked at Post.	To be sold at Post.	TO BE TURNED INTO DEPOSIT.				TO BE TAKEN UP ON RETURNS.	
		To be destroyed.	To be broken up.			For issue.	For repairs or recuperation.	For sale.	To be broken up.		
Worn out in use	26	To be used for dish cloths in kitchen .
Worn out in use	6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Worn out in use	1	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Worn out in use	2	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Worn out in use	2	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Worn out in use	1	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

I CERTIFY that I have, this 20th day of March, 1884, carefully examined each and every article enumerated in the accompanying inventory; that their condition is as stated above; that the articles recommended to be destroyed have no money value at or near the Post; and that the disposition recommended is, in my judgment, the best for the public interests. I also certify that the articles found to be utterly worthless have, as far as practicable, been destroyed in my presence.

I. D. DE RUSSY,
Major 4th Infantry, A. A. Inspector

Voucher No. 2. (See page 84.)

INVENTORY
AND
INSPECTION REPORT
OF

Clothing, Camp and Gar. Equipage

FOR WHICH

Capt. William H. Powell, 4th Inf., Commanding Co.

"G," is responsible,

INSPECTED AT

Fort Omaha, Nebraska,

ON THE

20th day of March, 1884.

FOR DIRECTIONS—SEE OTHER SIDE.

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The within articles will be disposed of

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By order of
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WAR DEPARTMENT,
WASHINGTON CITY, *January 2, 1876.*

Requisitions for these blanks to be made direct upon the Inspector General at

E. D. TOWNSEND,
Adjutant General, U. S. Army.

channels ; otherwise, it will be presented to him upon his arrival. Receiving his and returned, with such orders, to the officer responsible for the property, who will extracts will, when practicable, be signed by the Inspector, or by an officer wholly , but separate inventories are to be made for the property of each Staff Department, and for "COMMISSARY PROPERTY," as distinct from "SUBSISTENCE ly, with brief description of color, sex, age, and distinguishing marks. Of the in- next stated accounts, and one will be retained by himself. In order to relieve an ble for use, or when deficiencies are found in it, it must, before being submitted to

esent condemnation ; those to be "DROPPED FROM RETURNS," if utterly worthless, n as public property ; and when the presence of the Inspector is impracticable, the icer responsible, to the destruction of the same ; and such articles as cannot be so nd serviceable parts retained ; those "TO BE SOLD AT THE POST" are such as are of not be repaired at the post and are worth the cost of turning them in ; and those to responsible, or transferred to depot, or to some other officer, whose receipt will be ion or treatment if temporarily unserviceable. The special attention of Inspectors is

(100 pages)

I CERTIFY that the above statement is correct, that the charges have been made, and for the reasons stated.

I CERTIFY that the ABOVE statement is correct, that the charges have been made, and for the persons named.

WM. H. POWELL,
Capt. 4th Inf., Com'd'g Co. G.

(SIGNED IN DUPLICATE.)

(See page 84.)

Voucher No. 3, First Quarter, 1884.

STATEMENT OF CHARGES

MADE BY

Capt. Wm. H. Powell, 4th Inf.,

Commanding Company "G."

To be in duplicate: one to be retained by the officer, the other to be forwarded to the Quartermaster General with the quarterly return, Form No. 45.

NOTE.—Metallic ornaments and articles of camp and garrison equipage in ordinary use by soldiers, may be charged to them on muster and pay-rolls when lost or destroyed by their fault.

(See page 84.)

ABSTRACT of Articles C. and G. E. expended under the direction of
 Captain Wm. H. Powell, 4th Inf., in the quarter ending
 31st March, 1884.

BY WHOM MADE.	Company Morning Report.	Target Practice.	
Capt. Wm. H. Powell, 4th Inf., Commanding Co. G.			
.....	I	I	.....

I certify that the above abstract is correct.

WM. H. POWELL,
 Capt. 4th Inf., Com'd'g Co. "G."

[Endorsement on above.]

Voucher No. 4, First Quarter, 1884.

ABSTRACT.

Articles C. and G. Equipage
Expended under Direction of
Captain Wm. H. Powell, 4th Infantry,
Commanding Company "G,"
in the Quarter ending March 31, 1884.

Return of Quartermaster's Stores.

A Return of Quartermaster's Stores received and issued during the quarter must also be made. There are but few articles of company property which are to be accounted for on this return, which is the same as that used by Post and Depot Quartermasters in making a return of the property under their charge. The articles in use by a Company which must be accounted for on this paper are buckets, lanterns, locks, desks, white wash and paint brushes, stove polish, Dutch ovens, for use in the field, and such other articles of like nature as the Company, by order from the War Department, may be permitted to keep on hand.

In order to be able to drop from this return any articles worn out in the service, it must be submitted to the action of an inspector, as described on page —, and the inspection report accompanies the Return as a voucher.

Stove polish is expendable on a certificate of the Company Commander as described for return of Clothing, Camp and Garrison Equipage.

Fuel or Stationery issued to a Company is not taken up on this or any other Return. These articles are simply "required for" on the requisitions described under the heading of "Company Clerk" and are used as the service demands, without accountability.

The following is the form now in use:

(See page 106.)

in duplicate: one to be retained by the officer, one to be
ter General's Office.

*of Quartermaster's Stores received, issued, and re-
at Fort Blank, Utah, in the quarter ending on
June, 1885, by David Jones, Capt. 50th Inf.*

secure uniformity in returns of Quartermaster's stores, they
classed under the following heads:

furniture.
ation.

11. Wheelwrights' tools.
12. Masons' and bricklayers' tools.
13. Saddlers' tools.
14. Miscellaneous tools.
15. Machinery.
16. Miscellaneous stores for expenditure,
alphabetically arranged, as build-
ing materials, bricks, horse medi-
cines, horseshoes, lumber, rope,
steel, &c.

(See page 106.)

NOTE.—To be made in duplicate : one to be retained by the officer, one to be sent to the Quartermaster General's Office.

Quarterly Return of Quartermaster's Stores received, issued, and remaining on hand at Fort Blunk, Utah, in the quarter ending on the 30th day of June, 1885, by David Jones, Capt. 50th Inf.

NOTE.—In order to secure uniformity in returns of Quartermaster's stores, they should be itemized and classed under the following heads :

- | | |
|----------------------------------|---|
| 1. Fuel. | 11. Wheelwrights' tools. |
| 2. Forage. | 12. Masons' and bricklayers' tools. |
| 3. Straw. | 13. Saddlers' tools. |
| 4. Stationery. | 14. Miscellaneous tools. |
| 5. Office and barrack furniture. | 15. Machinery. |
| 6. Means of transportation. | 16. Miscellaneous stores for expenditure, |
| 7. Veterinary tools. | alphabetically arranged, as build- |
| 8. Blacksmiths' tools. | ing materials, bricks, horse medi- |
| 9. Farriers' tools. | cines, horseshoes, lumber, rope, |
| 10. Carpenters' tools. | steel, &c. |

QUARTERLY RETURN of Quartermaster's Stores received and issued at Fort Blank, Utah, in the quarter ending on the 30th day of June, 1885, by Capt. David Jones, 50th U. S. Inf.

Abstracts, &c.												
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I master's Department, during the quarter ending on the —
of —
DAVID JONES,
Capt. 50th U. S. Inf.

4. Stationery.

[illegible]

[Here insert any extra leaves that may be required by the number of articles borne on the return.]

I certify, on honor, that the foregoing Return exhibits a true and correct statement of all the property which has come into my hands, on account of the Quartermaster's Department, during the quarter ending on the —
of —, 18—. DAVID JONES,
Capt. 50th U. S. Inf.
(Signed in duplicate.)

(See page 106.)

Captain David Jones,

50th U. S. Inf.

QUARTERLY RETURN OF QUARTERMASTERS' STORES

Received and issued in the quarter

ending on the *30th* day of *June, 1885.*

In case of one officer relieving another as Quartermaster, the transferring officer need not enter the receipt for Quartermaster's stores upon the abstract, but directly on the return as "transferred to successor."

The receiving officer, in such case, may enter the invoice upon the return as "on hand at the post, received from predecessor."

To be made in duplicate; one copy to be forwarded to the Quartermaster General within twenty days after the expiration of the quarter, the other to be retained by the officer.



Return of Ordnance and Ordnance Stores.

A Return of Ordnance and Ordnance Stores received, issued, expended, and remaining on hand at the end of each quarter, must also be made. The articles embraced under this head pertaining to the Company are the arms, all kinds of ammunition, spare parts of the arm in use for ordinary repair. Blanket bags and straps, haversacks, canteens, meat cases, knives, forks and spoons, tin cups, waistbelts and plates, cartridge boxes, pistol holders, tools for re-loading empty cartridge shells, iron targets, stencil plates, books pertaining to rifle practice, arm chests, screw-drivers, shell-extractors and cleaning materials; and in addition, for Artillery and Cavalry, harness, saddles, gun-carriages, limbers, caissons and all their appointments, portable forges, horseshoes, saddler's tools, leather, currycombs and brushes, nose-bags, spurs, bridles, horse-blankets, etc.

Ammunition, spare parts of arms and cleaning materials are alone expendable, the former in such quantities as from time to time may be allowed by the War Department for practice in time of peace, or whatever may be used in time of war, and the latter as circumstances require.

In the mounted batteries and the cavalry, in addition to the above, horse shoes and nails, and articles consumed in the repair of saddles, bridles, harness, etc., are also expendable upon the certificate of the officer in command of the company, battery or troop.

All other articles must be charged to any soldier losing or disposing of the same, or submitted to the action of an inspector, as previously described, if damaged by ordinary use. If unavoidably lost, without being able to fix the responsibility, then a Board of Survey must be asked for to inquire into the circumstances and fix the responsibility.

The form in use is given on pp. 113-120, and is made out to illustrate the method for a Company of Infantry; other headings will be found in their proper place for articles pertaining to other arms of the service.

It will of course be understood, that all the blank forms in this chapter are those used in the United States Army. In the Militia of the various States, the forms for account-

ability of property vary from these, but whenever Militia is called into the service of the United States, it will have to use United States forms. Some forms, like those used for accounting for United States property, are the same in all States. Muster rolls, morning reports, guard reports, etc., are also the same, being all strictly those used in the United States Army.

QUARTERLY RETURN OF ORDNANCE AND ORDNANCE STORES

RECEIVED, ISSUED, AND REMAINING ON HAND

IN

Co. "G," 4th Regiment Infantry,

COMMANDED BY

Captain Wm. H. Powell, 4th Infantry,

DURING

the Third Quarter, ending 30th Sept., 1883.

* * * "Every officer of the Ordnance Department, every ordnance store-keeper, every post ordnance sergeant, each keeper of magazines, arsenals, and armories, every assistant and deputy of such, and all other officers, agents, and persons who shall have received or may be intrusted with any stores or supplies, shall quarterly, or oftener if so directed, and in such manner and on such forms as may be directed or prescribed by the Chief of Ordnance, make true and correct returns to the Chief of Ordnance of all ordnance, arms, ordnance stores, and all other supplies and property of every kind, received by or intrusted to them and each of them, or which may in any manner come into their and each of their possession and charge." * * * Section 1167, Revised Statutes of the United States.

The auditing and settlement of ordnance property accounts, which was formerly performed by the Second Auditor of the Treasury, has, by decision of the Secretary of War, been devolved upon the Chief of Ordnance; and officers responsible for ordnance property are required to satisfy the Chief of Ordnance of the sufficiency of all papers submitted as vouchers for the disposition made of the stores for which they are responsible.

The Property Returns when examined, found correct, and finally settled and closed, are filed in the Ordnance Office, and are no longer sent to, or acted on by, any of the accounting officers of the Treasury.

Received at Ordnance Office, 188 .

Examined, found correct, and audited by the Chief of Ordnance. The Return filed in Ordnance Office, and the responsible official notified of settlement, 188 .

SEND THE RETURN AND ALL PAPERS CONNECTED WITH IT TO "THE CHIEF OF ORDNANCE, U. S. ARMY," DIRECT, IN ONE PACKAGE.

ALL COMPANY OFFICERS HAVING ORDNANCE STORES TO ACCOUNT FOR SHOULD OBSERVE—

1. That each officer's accountability commences from the day he took command of the Company; he is to make returns for his own accountability only, and is not held responsible for that of *any other person*.
2. That the account of property rendered in this Return must invariably be closed at the end of the official quarter, viz: 31st March, 30th June, 30th September, and 31st December of each year, *except* where officers, by reason of leaving the service, or being transferred to a new station or command, desire to close their accountability between these dates, in which case it will terminate at the date *the balance on hand was transferred to another person*.
3. That it must be clearly stated how the stores with which the United States is credited came into the possession of the officer—whether brought forward from the last Return, received on an invoice from another person, taken up by virtue of an inventory made by a Board of Survey, or on a certified statement made by the officer himself.
4. That every *issue* to another person must be made in compliance with *proper authority*, a copy of the order or requisition being furnished, and the issue attested by the *receipt of that person*. Where this cannot be obtained, a *certified invoice* of the stores which were issued must be filed as a voucher, with a *statement* showing why the receipt could not be obtained. No property can be *condemned* and *dropped*, except by authority of a regularly authorized inspector. Nothing but ammunition, parts of arms, and material for repairs can be expended, and these only in such quantities as the necessities of the case will warrant. Statements of *losses* or *damage* should be supported by the report of a Board of Survey; if the certificate of the officer accountable is filed, it should be supported by any corroborative evidence which can be obtained, such as the certificates of other officers, orders of a superior, or the affidavits of enlisted men or citizens. In short, every transaction noted on the Return *must be supported by proper vouchers*, which are the legal evidences of the correctness of the statements made.
5. That the Return is signed with *full name and official title*, and that it is done *legibly*; that the station and date are inserted in the proper place when the Return is finished, signed, and that the *P. O. address of the station is given*.
6. Give the maximum strength of the Company.
7. In cases where the term *various* or *assorted* is appended to the designation of any tool or other article, all the stores of that name will be entered under that specified heading. For instance, under the heading *awls*, *various*, will be entered all the kinds which heretofore have been entered separately as awls, hand; awls, peg; awls, stub; awls, with handle, etc.; so, also, in the case of chisels, files, hammers, etc., etc.
8. If there should be more articles of ordnance property on hand than headings have been provided for on this blank, they can be entered on the blank sheets, which will be furnished by the Chief of Ordnance on application, and which will be pasted in under the proper classes.

The printed headings on this blank must not be erased, added to, interlined, or in any way changed.

QUARTERLY RETURN OF ORDNANCE AND ORDNANCE STORES *received, issued, and remaining on hand, in Co. "G," Fourth Regiment Infantry, for*

DATE.		NUMBER OF VOUCHER.	THIRD QUARTER, 1883.	CLASS VI.																													
				BREECH-LOADING RIFLES, CARBINES, REVOLVERS, &c.															SWORDS.														
1883.				Springfield rifles, caliber .45.	Springfield long-range rifles, caliber .45.	Springfield rifles, rod bayonet, caliber .45.	Springfield rifles, 28-inch barrels, caliber .45.	Chaffee-Reece magazine rifles.	Hotchkiss magazine rifles, caliber .45.	Lee magazine rifles, caliber .45.	Springfield shot-guns.						Colt's revolvers, caliber .45.	Schofield S. & W. revolvers, caliber .45.	Hunting-knives.	Trowel bayonets.						Non-commissioned officers'.	Musicians'.						
June	30	.	On hand from last Return. . .	49	.	.	.	.	.	.	2	.	.	.	.	.	5	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
June	29	1	Taken up, as per. . .	.	.	.	.	.	.	.	.	.	.	.	.	.	5	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
June	29	2	Received from Capt. Frank Heath, Ord. Dept. U. S. A. . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
June	29	2	Received from Capt. Frank Heath, Ord. Dept. U. S. A. . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
July	25	3	Received from 1st Lieut. B. D. Price, Adj. 4th Inf. . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	Received from . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	Received from . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
| TOTAL TO BE ACCOUNTED FOR.				49	.	.	.	.	.	.	2	.	.	.	.	.	5	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
July	28	1	Issued to Capt. Frank Heath, Ord. Dept. U. S. A. . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	Issued to. . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	Issued to. . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
July	10	2	Condemned to be dropped by order of A.A.I.G. Dept. Platte . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sept.	30	3	Expended, as per Abstract . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	Lost or destroyed, as per . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	Charged on Muster and Pay Rolls, as per Statement . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TOTAL ISSUED AND EXPENDED . . .				.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
REMAINING ON HAND TO BE ACCOUNTED FOR ON NEXT RETURN . . .				49	.	.	.	.	.	.	2	.	.	.	.	.	.	5	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.

DIRECTIONS FOR MAKING AND TRANSMITTING THIS RETURN.

Before proceeding to fill up this form, read carefully the notes on the first page, below the indorsement, as also the "Ordnance Property Regulations, 1877."

Mail with the ORIGINAL FOR THE ORDNANCE DEPARTMENT one complete set of vouchers as above numbered, within *twenty days* after the expiration of the quarter for which the Return is made.

Keep with the DUPLICATE TO BE RETAINED one complete set of vouchers—exact duplicates of those sent with the "Original."

If officers have neglected to make Returns for past quarters, correct Returns for each should be made out before commencing that for the current quarter.

All officers stationed east of the Rocky Mountains who are accountable for Ordnance Stores, whose Returns fail to reach the Ordnance Office within *sixty days* from the termination of the quarter for which they are due, and who cannot furnish a reasonable excuse for the delay, are now reported to the Secretary of War for a *stoppage of their pay* until the proper Return is made.

Postage must be paid *in full* by the mailing officer.

WAR.

sed, added to, interlined, or in any way changed.
ed, and remaining on hand, in Co. "G," Fourth Regiment Infantry, for

CLASS VI.													
RIFLES, CARBINES, REVOLVERS, &c.							SWORDS.						
					Colt's revolvers, caliber .45.	Schofield S. & W. revolvers, caliber .45.	Hunting-knives.	Trowel bayonets.				Non-commissioned officers'.	Musicians'.
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TRANSMITTING THIS RETURN.
v the indorsement, as also the "Ordnance Property Regulations, 1877."
ouchers as above numbered, within *twenty days* after the expiration of the quarter for
licates of those sent with the "Original."
1 should be made out before commencing that for the current quarter.
e Stores, whose Returns fail to reach the Ordnance Office within *sixty days* from the
ise for the delay, are now reported to the Secretary of War for a *stoppage of their pay*

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TO VI.

FIELD RIFLE AND CARBINE.

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the third quarter, ending September 30th, 1883.

CLASS X TO VI—Continued.												PART SECOND.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
SPARE PARTS FOR SPRINGFIELD RIFLE AND CARBINE												MISCELLANEOUS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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I CERTIFY that the foregoing Return exhibits a correct statement of the public property in my charge during the third quarter, ending September 30th, 1883; and that the maximum strength of the Company during the quarter was forty-three (43) enlisted men.

STATION: Fort Omaha, Nebraska, September 30th, 1883.

Post-office address of the Station: Fort Omaha, Nebraska.

WM H POWELL,
Captain 4th Infantry, Commanding Company

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erty in my charge during the third quarter, ending September 30th, 1883; and that the

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WM. H. POWELL,
Captain 4th Infantry, Commanding Company.

INVOICE OF ORDNANCE AND ORDNANCE STORES *turned over by Capt. F. Heath, Ord. to Depot Assistant Quartermaster at Cheyenne Depot, for transportation to C. O., Co. "G," 4th Infantry, at Fort Omaha, Neb., in obedience to order of Department Commander, dated June 25, 1883. (See page 111.)*

NO. OF BOXES.	MARKS.	CONTENTS.	WEIGHT.
1	Commanding Officer, Co. "G," 4th Infantry, Fort Omaha, Neb.	48 Bayonet Scabbards, Hoffman attachments . . .	117 lbs.
"		17 Gun slings lengthened	"
"		48 Waist belts	"
"		5 Waist belt plates	"
"		8 Screw-drivers	"
2-4		3000 Rifle ball Cartridges, Mod. 1881	375 lbs.
5-6		3350 Rifle bullets, lubricated flat-point	243 lbs.
1		5000 Cartridge primers, F. A.	"
"		12 Extractors	"
"		12 Tumbler screws	"
"		12 Tumblers swiveled	"
"		1 gallon Sperm oil	"
6 Boxes.		.....	708 lbs.

I CERTIFY that the above is a correct Invoice of Ordnance and Ordnance Stores turned over by me this 29th day of June, 1883, to Depot Quartermaster at Cheyenne Depot, for transportation to as above.

FRANK HEATH,
*Captain of Ordnance,
 Chief Ordnance Officer, Dept. Platte,
 Commanding.*

(IN TRIPLICATE.)

One direct to the officer by mail. Two to the Quartermaster, who keeps one, and forwards the other to the receiving officer.

Voucher No. 1.* (See page 111.)

INVOICE OF STORES

TURNED OVER TO QUARTERMASTER FOR TRANSPORTATION

By *Capt. Frank Heath, Ord. Dept., U. S. A., Chief Ordnance*
Officer D. P.

On the *29th* day of *June*, 1883.

Received . . day of *July*, 1883.

* Where there are not a sufficient number of vouchers to render an abstract necessary, draw a pen through the word "ABSTRACT." In all cases, number the vouchers in the order of the date of reception, as above noted in the indorsement.

OFFICERS INVOICING ORDNANCE STORES SHOULD OBSERVE:

That all issues or transfers of Ordnance property must be made in pursuance of *proper authority*.

This authority may be as follows:

1. An order for supplies given by the Chief of Ordnance, Washington, D. C.
2. A requisition duly approved as required by paragraphs 112, 113, 114, and 115, Ordnance Property Regulations, 1877.
3. A direct order given by a superior officer to transfer certain stores.
4. An order which, from its nature, involves a transfer of property.

In all cases an officer making use of this blank must insert after the words "in obedience to," at the head of the Invoice, the order or authority under which the issue is made.

If an order for supplies, give its number and the year; if a requisition, say "The [Give Officer's name.]

requisition of, of, 188 ."

If an order, state whose order, when, and where given.

No issue will be considered valid unless the authority is given as here directed.

INVOICE OF ORDNANCE AND ORDNANCE STORES *turned over by Capt. F. Heath, Ordnance to Depot, Assistant Quartermaster at Cheyenne Depot, Wyo., for transportation to C. O., Co. "G," 4th Infantry, at Fort Omaha, Neb., in obedience to order of Department Commander, dated June 25, 1883. (See page III.)*

NO. OF BOXES.	MARKS.	CONTENTS.	WEIGHT.
		100 lbs. Musket Powder . . . . .	.....
		1 Barrel Powder Wood . . . . .	.....
1 Box .	Commanding Officer, Co. "G," 4th Infantry, Fort Omaha, Neb.	.....	185 Lbs.

I CERTIFY that the above is a correct Invoice of Ordnance and Ordnance Stores turned over by me this 29th day of June, 1883, to Depot, Quartermaster at Cheyenne Depot, Wyo., for transportation to as above.

FRANK HEATH,
Capt. of Ordnance,
Chief Ordnance Officer, D. P.,
Commanding.

(IN TRIPLICATE.)

One direct to the officer by mail. Two to the Quartermaster, who keeps one, and forwards the other to the receiving officer.

Voucher No. 2.* (See page 111.)

INVOICE OF STORES

TURNED OVER TO QUARTERMASTER FOR TRANSPORTATION

By *Capt. Frank Heath, Ord. Dept., U. S. A., Chief Ordnance Officer,*
D. Platte,

On the *29th* day of *June*, 1883.

Received . . . day of *July*, 1883.

* Where there are not a sufficient number of vouchers to render an abstract necessary, draw a pen through the word "ABSTRACT." In all cases, number the vouchers in the order of the date of reception, as above noted in the indorsement.

OFFICERS INVOICING ORDNANCE STORES SHOULD OBSERVE :

That all issues or transfers of Ordnance property must be made in pursuance of *proper authority.*

This authority may be as follows ;

1. An order for supplies given by the Chief of Ordnance, Washington, D. C.
2. A requisition duly approved as required by paragraphs 112, 113, 114, and 115, Ordnance Property Regulations, 1877.
3. A direct order given by a superior officer to transfer certain stores.
4. An order which, from its nature, involves a transfer of property.

In all cases an officer making use of this blank must insert after the words "in obedience to," at the head of the Invoice, the order or authority under which the issue is made.

If an order for supplies, give its number and the year ; if a requisition, say " the [Give Officer's name.] requisition of , of , 188 . "

If an order, state whose order, when, and where given.

No issue will be considered valid unless the authority is given as here directed.

INVOICE OF ORDNANCE AND ORDNANCE STORES *turned over by 1st Lieut. Butler D. Price, Adjutant 4th Infantry, to Commanding Officer, Company "G," 4th Infantry, at Fort Omaha, Nebraska, on the 1st day of August, 1883, in obedience to Orders 178, Columbus Barracks, Ohio, July 28, 1883.* (See page III.)

(See notes on outside.)

		CONTENTS.	WEIGHT.	VALUE, per piece or lb.	The value of all Stores issued from an Arsenal, Armory, or Ordnance Depot must, if pos- sible, be stated.
		1 Clothing Bags and Straps . . . . .	. . . . .	. . . . .
		1 Haversacks and Straps . . . . .	. . . . .	. . . . .
		1 Canteens and Straps . . . . .	. . . . .	. . . . .
		1 Meat Cans . . . . .	. . . . .	. . . . .
		1 Tin Cups	
		1 Knives, Forks and Spoons, sets of.	

I CERTIFY that the above is a correct Invoice of Ordnance and Ordnance Stores turned over by me this 1st day of August, 1883, to Commanding Officer, Company "G," 4th Infantry.

(IN DUPLICATE.)

BUTLER D. PRICE,
1st Lieut. and Adjutant 4th Infantry.

(For issue or transfers of Ordnance Stores.)

RECEIVED at Cheyenne Ord. Depot, this 13th day of Aug., 1883, of Capt. Wm. H. Powell, 4th Inf., Com'dg Co. "G," the following Ordnance and Ordnance Stores, as per invoice dated the 28th day of July, 1883. (See page III.)

One (1) Box.	Ten (10) Bayonet Scabbards, steel	} Unserviceable.
	Nineteen (19) Waist Belts, privates	
	Nine (9) Gun Slings	

(IN DUPLICATE.)

FRANK HEATH,
*Captain of Ordnance,
Chief Ordnance Officer, Dep. Platte,
Commanding.*

Voucher No. 3.* (See page III.)

INVOICE OF STORES

TURNED OVER

By *1st Lieut. Butler D. Price, 4th Inf., Adjutant 4th Infantry,*

On the *1st* day of *August, 1883.*

Received *1st* day of *August, 1883.*

* Where there are not a sufficient number of vouchers to render an abstract necessary, draw a pen through the word "ABSTRACT." In all cases number the vouchers in the order of the date of reception, as above noted in the indorsement.

OFFICERS INVOICING ORDNANCE STORES SHOULD OBSERVE:

That all issues or transfers of Ordnance property must be made in pursuance of *proper authority.*

This authority may be as follows:

1. An order for supplies given by the Chief of Ordnance, Washington, D. C.
2. A requisition duly approved as required by paragraph 113, Ordnance Property Regulations.
3. A direct order given by a superior officer to transfer certain stores.
4. An order which, from its nature, involves a transfer of property.

In all cases an officer making use of this blank must insert, after the words "in obedience to," at the head of the Invoice, the order or authority under which the issue is made.

If an order for supplies, give its number and the year; if a requisition, say "the requisition of [Give officer's name.] of, 188 ."

If an order, state whose order, when and where given.

No issue will be considered valid unless the authority is given as here directed.

Voucher No. 1. (See page III.)

RECEIPT FOR ISSUES TO

*Capt. Frank Heath, Ord. Dept., U. S. A., Chief Ordnance Officer,
D. P., Cheyenne Ord. Depot, W. T.,*

On the *28th* day of *July, 1883,*

AS PER INVOICE DATED

the *28th* day of *July, 1883.*

ABSTRACT OF MATERIALS, &c., expended or consumed in Company "G," 4th Regiment Infantry, Capt. Wm. H. Powell, 4th Inf. Conn'dg Co., during the Third quarter, 1883.

I CERTIFY, ON HONOR, that the above abstract is correct, and that the stores have been expended for the purposes stated.
[IN TRIPLICATE.] W^M. H. POWELL.

NOTES. { No other stores than ammunition and materials can be expended on this abstract.
Give letter of Company, the Regiment, and arm of service.
If more headings are required, gum a piece of paper on the right-hand edge, ruled in conformity with this sheet.

for the purposes stated.
W^M. H. POWELL,
Captain 4th Infantry,
Commanding.

No. 3.

ABSTRACT OF EXPENDITURES.

Co. "G," 4th Reg't *Infantry*,

Third Quarter, 1883.

e III.)

A

REMARKS.

Whenever practicable, the In-
note in this column when,
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condemnation of the
articles found to be utterly

SWIN C. MASON,
A. I. G., Dep't Platte.

INVENTORY AND INSPECTION REPORT of Ordnance and Ordnance Stores, for which Capt. Wm. H. Powell, 4th Inf., is responsible, and which have been inspected and reported on by Licut. Col. E. C. Mason, A. A. Inspector General, Department of the Platte. (See page 111.)

INVENTORY.							INSPECTION REPORT.										
ARTICLES.	QUANTITY.	RECEIVED BY THE OFFICER NOW RESPONSIBLE.			CONDITION WHEN RECEIVED AT POST, (IF KNOWN.)	HOW RENDERED UN-SERVICEABLE.	NATURE, EXTENT, AND PROBABLE CAUSE OF DAMAGE.	DISPOSITION RECOMMENDED.									REMARKS.
		WHEN.	FROM WHOM.	CONDITION WHEN RECEIVED.				To be continued in service.	TO BE DROPPED.		To be repaired or repacked at Post.	To be sold at Post.	TO BE TURNED INTO DEPOT.			TO BE TAKEN UP ON RETURNS.	
									To be destroyed.	To be broken up.			For issue.	For repairs or recuperation.	For sale.	To be broken up.	
Colt's Pistol Holsters	One (1)	1879	Lieut. Crittenden, 4th Inf.	Worn	Not known . .	Worn out in service	All the articles named in this inventory are worthless for service.	.....	I	.....	.....	.....	.....	.....	.....	.....	.....
Bayonet Scabbards, steel . . .	Ten (10)	1879	Lieut. Crittenden, 4th Inf.	Worn	Not known . .	Worn out in service . . . . .		.....	.....	.....	.....	.....	.....	10	.....	.....	.....
Waist Belts, Pvts.	Nineteen (19). . . .	1878	Lieut. Crittenden, 4th Inf.	Worn	Not known . .	Worn out in service . . . . .		.....	.....	.....	.....	.....	.....	.....	19	.....	.....
Gun Slings (70 inch)	Nine (9)	1878	Lieut. Crittenden, 4th Inf.	Worn	Not known . .	Worn out in service . . . . .		.....	.....	.....	.....	.....	.....	.....	9	.....	.....

I CERTIFY, *on honor*, that the above is a correct inventory, in every particular, of public property for which I am responsible, which I have personally examined and believe requires the action of an Inspector, and which, to the best of my knowledge and belief, has never been previously condemned.

STATION—Fort Omaha, Nebraska.
DATE—May 16th, 1883.

WM. H. POWELL,
Capt. 4th Inf., Comd'g Co. "G."

I CERTIFY that I have, this tenth day of July, 1883, carefully examined each and every article enumerated in the accompanying inventory; that their condition is as stated above; that the articles recommended to be destroyed have no money value at or near the Post; and that the disposition recommended is, in my judgment, the best for the public interests. I also certify that the articles found to be utterly worthless have, as far as practicable, been destroyed in my presence.

EDWIN C. MASON,
Lieut. Col. 4th Infantry, A. A. I. G., Dep't Platte.

ART OF WAR.

WAR DEPARTMENT,
WASHINGTON CITY, *January 2, 1876.*

This Form will be used for the inspection of property for condemnation in all the different departments of the Army. Requisitions for these blanks to be made direct upon the Inspector General at Washington.

BY ORDER OF THE SECRETARY OF WAR:

E. D. TOWNSEND,
Adjutant General, U. S. Army.

DIRECTIONS.—To be made out in triplicate, and, whenever practicable, forwarded to the Inspector through the proper channels; otherwise, it will be presented to him upon his arrival. Receiving his action, it will be forwarded for the orders of the Commander empowered to authorize the disposition of condemned property, and returned, with such orders, to the officer responsible for the property, who will send certified abstracts with any property ordered to be turned into depot or to be transferred to some other officer, which abstracts will, when practicable, be signed by the Inspector, or by an officer wholly disinterested in the disposition or responsibility of the property. This Form is designed for all descriptions of public property, but separate inventories are to be made for the property of each Staff Department; also for "CLOTHING, CAMP AND GARRISON EQUIPAGE," as distinct from all other property of the Quartermaster's Department, and for "COMMISSARY PROPERTY," as distinct from "SUBSISTENCE STORES," whenever property of the Subsistence Department is to be inspected. HORSES and MULES will be inventoried singly, with brief description of color, sex, age, and distinguishing marks. Of the inventories, one will be sent to the Chief of the Staff Department to which the property pertains, one will accompany the officer's next stated accounts, and one will be retained by himself. In order to relieve an officer from liability on account of public property that has become damaged except by fair wear and tear, or otherwise unsuitable for use, or when deficiencies are found in it, it must, before being submitted to an Inspector for condemnation, be examined by a Board of Survey.

Articles to be "CONTINUED IN SERVICE" are such as the Inspector regards as still serviceable, and not proper subjects of present condemnation; those to be "DROPPED FROM RETURNS," if utterly worthless, to be so far destroyed, in the presence of the Inspector, whenever practicable, as to prevent any possibility of future presentation as public property; and when the presence of the Inspector is impracticable, the officer under whose personal supervision such articles are directed to be destroyed shall certify, on the monthly return of the officer responsible, to the destruction of the same; and such articles as cannot be so destroyed will, when practicable, be marked with the letters "I. C.," [Inspected, Condemned,] but otherwise to be broken up and serviceable parts retained; those "TO BE SOLD AT THE POST" are such as are of no further public use, or not worth the cost of transportation to the depot; those "TO BE TURNED INTO DEPOT" are such as cannot be repaired at the post and are worth the cost of turning them in; and those to be "TAKEN UP" are such *parts* of the broken-up articles as are still serviceable, and are to be kept for public use by the officer responsible, or transferred to depot, or to some other officer, whose receipt will be taken. Public animals will not be condemned for temporary disease or low flesh, but may be turned into the depot for recuperation or treatment if temporarily unserviceable. The special attention of Inspectors is called to the requirement of General Orders No. 8, Headquarters of the Army, A. G. O., March 3, 1869.

WAR DEPARTMENT,

WASHINGTON CITY, *January 2, 1876.*

Army. Requisitions for these blanks to be made direct upon the Inspector General at

E. D. TOWNSEND,

Adjutant General, U. S. Army.

oper channels ; otherwise, it will be presented to him upon his arrival. Receiving his
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peration or treatment if temporarily unserviceable. The special attention of Inspectors is

The Duty Sergeants.

The Sergeant has at all times certain specific duties to perform, and a certain limited sphere of authority. His place is never in the ranks, (except the color bearer.) His duties are principally those of instructor to the men.

The well-being and efficiency of any military organization is termed "**Morale**," and in the company it depends to such an extent on the non-commissioned officers, that the greatest care and judgement should be exercised in their selection.

All non-commissioned officers hold their positions on good behavior, from the time they are appointed as such until the term of enlistment expires. They are appointed by the Colonel of the Regiment or chief of the corps they belong to, on the recommendation of their company commander.

Their appointments are called warrants, and they can lose them only by sentence of a court-martial or order of the regimental or corps commanders.

The **Sergeant** should be distinguished by exceptional military qualities, such as a thoroughly intelligent knowledge of all drills, regulations and orders of his arm of service.

All non-commissioned officers take rank or precedence according to the date of their warrants. Thus the Sergeant after the First Sergeant who has occupied the position the greatest length of time, outranks the other Sergeants, and the Corporal longest serving as such outranks the other Corporals.

The Sergeant must be honest, industrious and sober, always obeying orders of superiors with alacrity and cheerfulness, and exacting the promptest and most cheerful obedience from those to whom he gives orders.

The Sergeant is placed in charge of a squad of men, also that part of the camp or barrack in which his squad is quartered. It is his office to see that all members of his squad know and perform all military duties required of them in a proper manner. He has the authority to punish infractions of discipline, to the extent of confining delinquents in the guard-house or tent, but in all cases wherein he uses his power he should report it to his company commander at the earliest practicable moment. He should, however, be cautious of this power, and never use it except

when absolutely necessary to prevent disturbances.* He must never hesitate to reprove those under him when needful, but his reproof should be kindly given.

He should be supported by all superior officers in his authority, except when it is improperly and unjustly exercised.

When he commits any military offence he must take his punishment like a man. If he does not, he shows himself unfit for his position.

He should at all times be ready to assist in enforcing and carrying out proper discipline in other squads besides his own, if called on to do so ; but he should have control of his own squad, receiving instructions from his First Sergeant or an Officer of the company.

Every non-commissioned officer should, if practicable, have a separate room in barracks, or a tent in camp, to himself. The non-commissioned officers should mess together at tables separate from the privates, as everything that conduces to familiarity with inferiors tends to lower the dignity of their positions. The Sergeants should constantly study tactics and military subjects. To have their own orders obeyed promptly, they should ever be willing to render a prompt obedience to orders given them, and thus show in themselves examples of good soldiers ; likewise they should never lose their temper or presence of mind, never swear, talk loud, or be rough in speech and manner.

It is the duty of the Sergeant in charge of a squad-room to see that the room is kept always in proper order, that the room-orderly does his work, that the men in the squad are neat and clean in person and surroundings ; when placed in charge of the kitchen, he should see that all the kitchen and mess-room furniture is kept clean and neat, that the food is of the right quality and quantity, and properly cooked. If he finds that the food is poor or insufficient, he should at once report it to the Captain.

* A recent order requires Sergeants and Corporals to first obtain the authority of a commissioned officer, before confining or arresting any person, except in the most urgent cases.

Duties of the Corporal.

The **Corporal** is the lowest rank of non-commissioned officer. The name Corporal indicates that it belongs to the body or rank, and he is in reality but a private distinguished especially for military bearing and steadiness. At all drills and parades his place is on the extremities of the Companies or Platoons, and he has no authority other than the private, except such given him when he is out of ranks, and in charge of a guard relief, or squad of men at work or drill.

In the absence of a Sergeant, the Corporal highest in rank takes his place and performs his duties. This is also a general rule applicable to all ranks, that in the absence of any officer the one next below him takes his place and performs his duties.

The Private.

The duty of every soldier is obedience to all orders from proper authority, respect to superior officers, and a careful observance of, and willingness to conform to all rules and regulations established for his guidance. When he has his uniform, arms and equipments given him, he should be taught how to properly use them, to keep them always neat and clean; how to properly put them on and wear them. He must be given to understand that they are furnished him for certain purposes, and that he therefore has no right to be in any way neglectful or careless of them.

If his company is in Garrison or Barracks—*i. e.*, the building in which soldiers live,—he is assigned to a sleeping bunk, in that part of the barracks that his squad lives in. Near his bunk is a locker to keep his clothing in, and he is given a place in the gun-rack for his rifle or carbine, and a peg for his accoutrements. He must keep the space around his bunk clean and neat, and the bedding on the bunk must be arranged in the day-time, in a neat and orderly manner. It must also be kept clean. The clothing in the locker must also be kept clean, for it is frequently inspected.

When he is given his arms he learns the use of them,

and the proper drill with them. When this is done he is in fact a soldier. He goes on guard, attends drills, parades, and inspections, takes his tour of fatigue duty, and performs all the duties of a soldier.

In camp there are many duties that are not pleasant to perform, such as guard duty at night, when the soldier is tired and sleepy from hard work or marching during the day; or maybe it is cold, or very hot, or rainy; and he often feels tempted to sit down or omit some part of the duty assigned him, because he thinks no one will know. Then there is fatigue and police duty, where he is obliged to assist in building a road, or digging a ditch, or cleaning up all the filth that accumulates near the barracks, kitchens, quarters, etc., or the bringing of fuel, water and food into quarters, in building and preserving government property. He will be detailed as kitchen police every few weeks, and have to clean up knives, forks, plates, floors, tables, pots, pans, etc., and assist in preparing and cooking the food. He must take his turn as room-orderly, and as such will have to sweep out the barracks, keep up the fires in cold weather, and preserve order and neatness in the room.

By doing all required of him in a cheerful and obedient manner, the soldier will always deserve and attract the commendation of his superior officers. The life of a recruit is generally the hardest part of a soldier's career, because the work being new and strange, it seems to him in many ways degrading and useless; but it is not so, and the soldier must bear in mind that all soldiers and officers have the same restrictions imposed upon them by the highest authority—the country. When a soldier thinks he has been ill-used by any private or non-commissioned officer he must report the matter to the First Sergeant, who will report it to the Captain. The Captain is bound to investigate and impartially judge the matter, and the soldier should abide his decision unless clearly wrong and illegal; but the soldier must never take the punishment in his own hands, and never use personal violence except in case of self-defence. And he must never go directly to the Captain with any complaint unless he has permission to do so,

or the First Sergeant refuses to report the matter for him. Whenever he is dissatisfied with his food, his clothing or duties, if he has good ground for making complaint, he should notify the First Sergeant that he wants permission to see the Captain, stating at the same time his reason.

If the soldier is ever in ignorance of any matter relating to his duties, he should apply to a non-commissioned officer of his company, preferably the one in charge of the squad he is in, and if he is not satisfied with the explanation given him, then he should go to the First Sergeant.

If orders are given the soldier which he knows are clearly wrong, he must not hesitate to obey them, unless he has time to report the matter to superior authority.

But to make a good soldier, it is not enough to know simply how to do the duties required of him. A good soldier is ever on the alert for information of all kinds. He renders prompt, cheerful and intelligent obedience to orders; he volunteers on all hazardous work, and anticipates the desires of superiors; he is careful of his clothing and arms, neat and cleanly in his appearance and person; he always remembers in his bearing and conversation that he is a soldier; he must know his drill, all orders or regulations which affect him; watches out for the safety and preservation of all property entrusted to him; he must be ever ready to enlighten and assist others, and at all times, by study and reading, and by careful observance, should improve himself in every possible way consistent with the profession of arms; he should never be heard to use profane, obscene or vulgar language, never debase himself with drink, but hold his honor as a soldier above all price.

There is one duty that recruits and militia men are apt to be averse to, because too often they misunderstand it. It is the matter of saluting. All soldiers and officers are required to salute each other when they meet or pass, the inferior giving the first salute. It is not in any way an act of degradation or exhibition of inferiority, but simply a military courtesy that is as binding on one as another. It is a bond uniting all in a common fraternity, and by regulations and custom, it is as incumbent on the General of the

Army to return the salute of the private, as it is of the latter to give it; and whether in the camp or the street of a great city, it is a privilege to recognize the General, that the soldier has which belongs to but few civilians, and marks the fact that above them there is an authority that both recognize and obey—the country.

Soldiers must never discuss in a derogatory manner or criticise the acts or orders of superiors.

THE BATTALION.

Originally, battalions were dense masses of men, numbering several thousand, and composed of many regiments; but they were subsequently reduced in size,—regiments were made of uniform strength, and the battalion became a fixed fraction.

All the great powers of Europe have adopted the battalion system, and we believe that it will not be long before the three-battalion formation will become a law for the entire line of the Army of the United States.

The battalion of four companies is of such a convenient size for moving as a body, that it has been adopted mainly for that purpose, and for its tactical adaptability to all circumstances. It should always be commanded by a Major.

A battalion may be composed of two or more companies, and even when the whole regiment is together, the term battalion is used whenever it is addressed by its commanding officer for purposes of instruction, or in the observance of ceremonies or performance of manœuvres on the battlefield.

THE REGIMENT.

A Regiment of **Infantry** is composed of ten companies, and Regiments of **Artillery** and **Cavalry** are composed of twelve companies. The former have only one Colonel, one Lieutenant Colonel, one Major, one Quartermaster and one Adjutant. The two latter arms of the service have in addition to Colonel and Lieutenant Colonel, three Majors each, and the Artillery has twenty-four First Lieutenants to

a Regiment. Two extra Lieutenants, who may be either first or second Lieutenants, are also allowed to each Artillery Regiment as Adjutant and Quartermaster.

Two of the companies in each regiment of Artillery are mounted in time of peace, and are called Light Batteries; the remainder of the regiment performs the duty of infantry, and in addition manœuvre the heavy artillery in the sea-coast fortifications.

The regiment is purely an administrative organization. If it consists of soldiers enough to justify the number of officers required in it, then it becomes too unwieldy for one man to control by his own voice. Composed of battalions, each battalion would be moved by the voice of its commander, under directions from the Colonel, verbally or by messenger.

The **Colonel** is to the regiment what the Captain is to the company, and should look to the care and comfort of his officers and men—treat them kindly and advise with his Captains as to the best methods of producing cheerfulness and content among all. Under the present system of small military posts, a Colonel seldom, if ever, sees his entire regiment, not even all his officers; and no means are provided for his visiting and frequently inspecting the companies away from his own headquarters.

The **Lieutenant Colonel** has no special duties, except when manœuvring with the regiment under arms. He of course assists the Colonel on all occasions where it falls within his power, and commands the regiment in the Colonel's absence.

The **Major** has only such duties to perform as may be assigned him either with the Regiment or absent from it, and assumes command in the absence of the other two higher officers.

The **Adjutant** is the Colonel's mouth-piece; through him is the channel of communication with the Captains. He consolidates all reports and returns from the companies, issues all orders, keeps all records pertaining to the regiment, has charge of the regimental band, and should combine with his soldierly qualities those of a man of letters and so-

cial standing. On him depends, to a great extent, the harmony of a regiment. He should be honest, just and pleasant to all.

The **Quartermaster** has charge of all public property pertaining to the regiment which belongs to the Government. He receives his orders either from the Colonel direct or through the Adjutant. He has no power to issue an order, except when acting as Adjutant, or to his own employees. When not in the field, where he has only his regiment to supply, he has added to his regimental duties those of a Post Quartermaster, and has charge of and distributes all property pertaining to the Government. In addition to his Quartermaster's duties, he is generally the Acting Commissary of Subsistence, and his duty in this capacity is to supply food to the command with which he is serving. A pleasant management of these departments secures much good feeling—otherwise an exceedingly unpleasant state of affairs is the result.

Both the Adjutant and Quartermaster of a regiment, although only First Lieutenants, receive a Captain's pay.

The administrative part of a regiment consists in the issuing of orders for the government of the companies; the appointment of non-commissioned officers on the recommendations of their company commanders (to whom warrants shall be issued on forms furnished from the Adjutant General's office), the consolidation of the reports and returns of all the companies, forwarding the same to designated departments of the service, and a general supervision of the means adopted by the Captain for the comfort and welfare of their men. All blanks for the purpose are furnished on proper application to the War Department.*

* NOTE.—The Sergeant Major is the assistant of the Adjutant, and is to him much the same that the Company Clerk is to the First Sergeant. He has charge of all books, and records, and papers, under direction of the Adjutant. The following are the forms used by the battalion, post or regiment. They explain themselves.

A

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From missing in action.

* In noting the number of recruits required to fill the regiment, the men of the band should be deducted from the total required for companies. The detailed soldiers of the Regimental Band should be reported on the line of Field and Staff in the column of Privates.

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nd date of order) at which an officer is assigned
nd date of order, the reasons for and commence
regiment, (with No., date, &c., of order), resig
nizations, serving with or attached to the regime
will be reported by name in red ink at the bottc

NAMES.

a brevet rank, as well as that by ordinary commission, to be given.)

STATF

ining companies, up to and including "M.,"]

RETURN of the Regiment of, Army of the United States, (Colonel,) for the month of, 188 . (See page 138.)

NOTE 1.—One copy of this Return will be transmitted for each month to the Adjutant General of the Army, (to be sent direct,) but will not be forwarded until completed by a consolidation of the corrected returns of all the companies of the Regiment.

Blanks will be supplied from the Adjutant General's Office, and their receipt must be promptly acknowledged, and they will be taken up on this Return.

COMMISSIONED OFFICERS, present and absent, accounted for by Name.

NOTE 5.—The *date* (with No. and date of order) at which an officer is assigned or transferred, to, from, or relieves, the regiment, or any company; assumes or is relieved from any command or special duty, with description of same, will be stated against his name, against that of absent officers, the No. and date of order, the reasons for and common element of absence, and period assigned for same (to be repeated on every Return while it lasts).

NOTE 6.—Transfers from the regiment, (with No., date, &c., of order,) resignations, dismissals, deaths, &c., will be reported at the foot of the list of officers, with date and place, and, in the latter case, the cause.

NOTE 7.—Officers of other organizations, serving with or attached to the regiment for duty, will be borne in red ink at the foot of the list of officers, but will not be included in the figures on the face of the Return. The requirements of Notes 5 and 6 will also be observed in their cases.

NOTE 8.—Veterinary Surgeons will be reported by name in red ink at the bottom of the list of officers, a dividing line being drawn between; but not being recognized as a part of the organization of the Army, will be excluded from the strength of the regiment on the face of the Return.

ALTERATIONS, since last Return, among the Enlisted Men.

NOTE 9.—The *date*, &c., of all transfers to or from the regiment, or from one company to another (with No., date, &c., of order), of all discharges, deaths, desertions, surrenders, apprehensions, &c., will be accurately noted; also the places of discharge, deaths, desertions, &c.

(To be accounted for by name, and classed in the same order as on the face of the Return.)

RETURN

Of the . . . Regiment of
For the month of, 188 .
Rec'd at A. G. Office

COMPANY	RANK	NAMES (The brevet rank, as well as that by ordinary commission, to be given.)	STATION.	REMARKS.	NO.	NAMES	RANK	Letter of Company	DATE.	PLACE.	REMARKS.	NO.	NAMES	RANK.	Letter of Company	DATE.	PLACE.	REMARKS.
	Colonel																	
	Lt Colonel																	
	Major																	
	"																	
	"																	
	Chaplain																	
	Adjutant																	
	Quartermaster																	
A.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	
B.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	
C.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	
D.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	
E.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	
F.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	
G.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	
H.	Captain																	
	1st Lieut.																	
	"																	
	2d Lieut.																	
	Add'l 2d Lieut.																	

[Same officers for remaining companies, up to and including "M"]

date, &c., of order), of all *discharges*,
rge, deaths, desertions, &c.
the Return.)

RETURN

Of the . . . Regiment of
For the month of, 188 .
Rec'd at A. G. Office

DATE.	PLACE.	REMARKS.
<div></div>	<div></div>	<div></div>

INSPECTION REPORT

d
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the day
188
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(See page 138.)

NOTE.—This blank is prepared in accordance with the requirements of G. O. No. 84, A. G. O. 1879, and Inspecting Officers, in filling out these Reports, will be careful to include therein all the information called for by said order.

I 43

 The directions on the back of this Form must be closely followed.

DR.

CR.

DATE.	FROM WHAT SOURCE RECEIVED.	DOLLARS.	CTS.	DOLLARS.	CTS.
188 .	BALANCE ON HAND LAST ACCOUNT	.	.	.	.

DATE.	HOW EXPENDED.	DOLLARS.	CTS.	DOLLARS.	CTS.
188

STATION:

Date :

Commanding . . .

Adj't.

Treasurer.

Commanding Regt.

Commanding Reg't.

Verified and approved :
Commanding Regt.

Commanding Regt.

Commanding Reg't.

Treasurer.

Commanding Reg't.

Verified and approved :
Commanding Regt.

Commanding Regt.

Commanding Reg't.

Verified and approved :
Commanding Regt.

Commanding Regt.

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REPORT
OF THE
TARGET FIRING
OF THE

. *Regiment of*

For the year 188 .

REPORT OF THE TARGET FIRING OF THE . . . Regiment of . . . for the year 188 . (See page 138.)
(See Part IV, Chap. IV, Instructions in Rifle and Carbine Firing.)

COMPANY.	NUMBER FIRING AND AVERAGE OF THE TOTAL OF THE BEST FOUR SCORES AT—										INDIVIDUAL CLASSIFICATION.							COMPANY SKIRMISH FIRING.				REMARKS.
	200 YARDS.	300 YARDS.	500 YARDS.	600 YARDS.	800 YARDS.	1000 YARDS.	Number firing.	Average total of scores.	Number firing.	Average total of scores.	Number firing.	Average total of scores.	Number firing.	Average total of scores.	Number firing.	Average total of scores.	Number of shots fired.	Number of hits.	Per Cent. of Pos- sible Score.	General Figure of Merit.		
Staff and Band.																						
A.																						
B.																						
C.																						
D.																						
E.																						
F.																						
G.																						
H.																						
I.																						
K.																						
L.																						
M.																						
Regiment.																						

This report is a correct compilation of the Annual Company reports.

Approved :

....., Comd'g Reg't.

..... Adjutant.


ABSTRACT
OF
COMPANY FUND ACCOUNTS

OF THE

. *Regiment of*

FOR THE

. *Quarter, 188* .

 This Form has three inner sheets. Should additional ones be needed, the will be prepared at Regimental Headquarters, to correspond in size and ruling with the within.

(A. G. O., No. 51.)

(See page 138.)

DIRECTIONS.

1. This abstract will be prepared, in duplicate, as soon after the expiration of the Quarter as practicable ; one copy to be retained, the other forwarded to Department Headquarters.
2. The name, quantity, and price of each article sold and bought will appear.
3. If the members of the Band mess with one of the Companies, a statement to that effect (including the letter of the Company) will appear at the end of the abstract.
4. The number of rations drawn, from which the savings shown were made, will be stated in red ink beneath the "Receipts" of each Company.

THE LINE OF THE ARMY.

149

[illegible]

RECAPITULATION.

[illegible]

First Endorsement.

Second Endorsement.

Headquarters Regiment
of
., 188 .

Headquarters Department of . .
.
., 188 .

Respectfully forwarded to Head-
quarters Department of
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*I certify that the foregoing is a
correct transcript from the records
of these Headquarters.*

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Commanding.

~~See~~ This Abstract should be folded only once for mail, lengthwise, along the deep black line on this page.

(See page 138.)

(See page 138.)

QUARTERLY REPORT

OF

ARTILLERY INSTRUCTION

OF THE

..... Regiment of United States Artillery

for the quarter ending , 188 .

BY

.....

Commanding Regiment.

Report of Artillery Instruction of the

BATTERY.	I.—MEANS OF INSTRUCTION AT POST.	
A		
B		
C		
D		
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F		
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REMARKS.

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Respectfully submitted,

.....

Colonel Artillery,

Commanding Regiment.

HEADQUARTERS ARTILLERY,

....., 188 .

FLAGS, COLORS, STANDARDS, ETC., U. S. ARMY.**Garrison, Post and Storm Flag.**

The **Garrison Flag** is the **National flag**. It is made of bunting, thirty-six feet fly, and twenty feet hoist, in thirteen horizontal stripes of equal breadth, alternately red and white, beginning with the red. In the upper quarter, next the staff, is the union, composed of a number of white stars equal to the number of States, on a blue field one-third the length of the flag, extending to the lower edge of the fourth red stripe from the top. This flag will be furnished only to very important posts, or those having large garrisons, and will be hoisted only on gala days and great occasions.—*Paragraph 2783, Codified Regulations, 1881.*

The **Post Flag**, twenty feet fly and ten feet hoist, will be furnished to all posts garrisoned by troops, and will be hoisted only in pleasant weather.—*Paragraph 2784, Codified Regulations, 1881.*

The **Storm Flag**, eight feet fly and four feet two inches hoist, will be furnished to all occupied military posts and national cemeteries, and will be hoisted in stormy or windy weather. This flag will also be used as a recruiting flag.—*Paragraph 2785, Codified Regulations, 1881.*

Colors of the Engineer Battalion.

The **National color**, as described for the garrison flags, with the words "U. S. Engineers" embroidered in silver on the center stripe. The **battalion color** will be of scarlet of the same dimensions as above, bearing in the center a castle, with the letters "U. S." above, and the word "Engineers" below in silver; fringe, white. The size of each color, and the length of pike, the same as described for colors of Artillery and Infantry regiments. Cords and tassels, red and white silk intermixed.—*Paragraph 2786, Codified Regulations, 1881.*

Colors of Artillery Regiments.

Each regiment of Artillery shall have two silken colors. The first, or the **National color**, of stars and stripes as de-

scribed for the garrison flag ; the number and name of the regiment to be embroidered with gold on the center stripe. The second or regimental color to be yellow, of the same dimensions as the first, bearing in the center two cannon crossing, with the letters "U. S." above and the number of the regiment below ; fringe, yellow. Each color to be six feet six inches fly, and six feet deep on the pike. The pike, including the spear and ferrule, to be nine feet ten inches in length ; cords and tassels, red and yellow silk intermixed.—*Paragraph 2787, Codified Regulations, 1881.*

Colors of Infantry Regiments.

Same as above described for Artillery, except that the number and name will be embroidered with silver on the first. The second color will be of blue with yellow fringe ; the arms of the United States embroidered in silk on the center, the name of the regiment in a scroll under the eagle ; cords and tassels, blue and white intermixed.—*Paragraph 2788, Codified Regulations, 1881.*

Each foot regiment shall have four flags for "markers" and two for "general guides."

The flag for "marker" to be made of banner silk, measuring twenty inches fly and eighteen inches on the pike. The design to be the same as the National color, except that the stars shall be placed in two circles, with one star in each corner of the field, the number of the regiment to be in solid block figure in the inner circle of the stars ; stars and figures to be in white silk needlework embroidery on a single thickness of silk. The pike to be of ash, with brass spear-head and ferrule ; total length, eight feet. To have a case or cover of water-proof material to protect the flag when furled. All to conform to sample in the office of the Quartermaster General.

The flag for "general guide" to be made of banner silk, measuring eighteen inches fly and fifteen inches on the rod. The design to be the same as for the flag for "marker," to be trimmed with yellow silk cut fringe one and one-half inches deep. The rod to be of brass tubing, nickel-plated, and of diameter to exactly fit inside the bore of the .45-

inch calibre rifle; twenty-eight and one-half inches long, with a collar fitted ten inches from the bottom to rest on the muzzle of the gun. To be finished with two nickel-plated knobs for fastening the flag, and at the top with a nickel-plated spear-head three and one-half inches long. The case or covering to be the same as for the flag for "marker." All to conform to sample in the office of the Quartermaster General.

Guidons for Cavalry.

The flag of the guidon is swallow-tailed, three feet five inches fly from the lance to the end of the swallow-tail, and two feet three inches on the lance: to be cut swallow-tailed fifteen inches to the fork. To be made of silk, and to consist of two horizontal stripes, each one half the width of the flag, the upper red and the lower white; the red to have on both sides in the centre the number of the regiment in white silk, and the white to have the letter of troop in red silk: the letter and number to be block-shaped, four and three-fourths inches high, and held in place by a border of needlework embroidery three-sixteenths of an inch wide, of same color. The lance to be one and one-fourth inches in diameter, and nine feet long, including spear and ferule. To have a water-proof case or cover, to protect the guidon when furled.—*G. O. No. 10, War Dept., 1885.*

Standards and Guidons of Mounted Regiments.

Each regiment will have a silken standard, and each company a silken guidon, the standard to bear the arms of the United States, embroidered in silk, on a blue ground, with the number and name of the regiment in a scroll under the eagle. The flag of the standard to be two feet five inches wide, and two feet three inches on the lance, and to be edged with yellow silk fringe.—*Paragraph 2790, Codified Regulations, 1881:*

Arms of the United States.

Arms.—Paleways of thirteen pieces, argent and gules, a chief azure; the escutcheon on the breast of the Ameri-

can eagle displayed proper, holding in his dexter talon an olive branch, and in his sinister a bundle of thirteen arrows, all proper; and in his beak a scroll inscribed with the motto: "E PLURIBUS UNUM."

Crest.—Over the head of the eagle, which appears above the escutcheon, a glory breaking through a cloud, proper, and surrounding thirteen stars, forming a constellation, argent and on an azure field.—*Paragraph 2793, Revised Codified Regulations, 1881.*

CHAPTER IV.

THE ROSTER, OR DETAILS FOR SERVICE.

MODEL FORMS FOR KEEPING.



THE ROSTER, OR DETAILS FOR SERVICE.

A **Roster** is a form of record kept for equalizing the duties of both officers and soldiers, and the correct keeping of it avoids unfairness to any one ; but officers and men, when detailed for any duty, must serve whether roster be kept or not ; having performed the service, they may appeal to superior authority if they deem themselves aggrieved.

The duties performed by detail are of three classes :

The **first class** comprises : 1st, grand guards and out-posts ; 2d, interior guards ; 3d, orderlies ; 4th, police guards.

The **second class** comprises : 1st, detachments to protect laborers on military works, as field works, communications, etc. ; 2d, working parties on such works ; 3d, detachments to protect fatigues.

The **third class** comprises General Courts-Martial, and all fatigues without arms, in or out of camp or garrison. Under this heading might also be embraced Garrison Court-Martial duty and Boards of Survey.

In the cavalry, stable guards form a separate roster, and count before fatigue.

The rosters are distinct for each class. Officers are named on them in the order of rank. The details are taken in succession in the order of the roster, beginning at the head. Lieutenants form one roster, and first and second lieutenants are entered on it alternately. The senior first lieutenant is the first on the roster, and the senior second lieutenant is second. The captains form one roster, and are exempt from fatigues, except to superintend issues. A captain commanding a battalion temporarily is exempt from detail, and duty falling to him passes to the next in rank. Lieutenant Colonels and Majors are on one roster. They may be detailed for duties of the 1st and 2d classes, when the importance of the guards and detachments requires it. Their roster is kept at brigade and division headquarters.

Officers, non-commissioned officers and soldiers take duties of the first class in the order stated, viz: The first for the details takes the grand guards; the next, the interior guards; the last, the police guards, and the same rule in regard to the details and duties of the second class. In the details for the third class, the senior officer takes the largest party. The party first for detail takes the service out of camp.

When the officer whose tour it is is not able to take it, or is not present at the hour of marching, the next after him takes it. When a guard has passed the chain of sentinels, or an interior guard has reached its post, the officer whose tour it was cannot then take it. He takes the tour of the one who has taken his. When an officer is prevented by sickness from taking his tour he becomes first for detail on being restored to duty, the general rule being that the officer the longest off duty is the first for detail. These rules apply equally to non-commissioned officers and soldiers.

Duties of the first and second classes are credited on the roster when the guards or detachments have passed the chain of sentinels, or an interior guard has reached its post; fatigue duties when the parties have passed the chain or begun the duties in camp.

Every officer, non-commissioned officer, or soldier on duty of the first class, or who is of the next detail for such duty, takes, when relieved, the duty of the second or third class that has fallen to him during that time, unless he has marched for detachment of more than twenty-four hours.

Soldiers march with blanket bags on all duties of the first class, and with arms and equipments complete on all working parties out of the camp, unless otherwise ordered. In the cavalry, horses are packed for all mounted service.

Dismounted men, and those whose horses are not in order, are preferred for the detail for dismounted service. Those who are mounted are never employed on those services, if the number of the other class is sufficient.

Every non-commissioned officer and soldier in the cavalry detailed for dismounted service must, before he marches, take to the first sergeant of the troop, or sergeant of his squad, his horse equipments and his valise,

ready packed. In case of alarm, the first sergeant sees that the horses of these men are equipped and led to the rendezvous.

As far as the exigencies of the service will permit, all details from Light Artillery for armed service shall conform to the natural elements of the arm, as sections, platoons, or batteries.

A mounted battery, serving with other troops, will furnish its own park and stable guards, police, etc. Both officers and men will generally be exempt from other similar details, and the men will not be detailed for extra duty in the staff departments, nor for other duty interfering with battery duties, if it can be avoided.

The Regimental or Post Roster for Officers is kept by the Regimental or Post Adjutant.

The non-commissioned officers' roster for guard and other duties is kept by the Regimental or Post Sergeant Major; but the details made should be noted on the Company Roster.

The Company Roster is kept by the first sergeant of the company, and should be frequently inspected by the company commander, to see that no favoritism is shown in the details.

The roster for field officer of the day is kept at brigade headquarters, while that for general of the trenches is kept at corps or division headquarters.

No one in the company but the commander of it can authorize an exchange of tours of duty among the soldiers; no one but the adjutant an exchange among the non-commissioned officers; no one but the post or regimental commander an exchange among the commissioned officers of his command; no one but the brigade, division or corps commanders an exchange among the officers on the roster at their respective headquarters.

Officers, non-commissioned officers or soldiers reporting to their commander for the *first time* should be placed at the bottom of their respective rosters for duty; also those returning for detached service; but returning leave of absence, from being sick, or in arrest, etc., should be de-

tailed the day their names first appear on the morning reports of their commands for duty; and the duty performed the succeeding day.

The following are the forms for keeping the roster of guard duty. All other rosters assimilate to these:

REGIMENTAL OR POST ROSTER *for Officer of the Day and Officers of the Guard.*

JANUARY, 1885.	1	2	3	4	5	6	7	8	9	10	11	12	
CAPTAINS.													
W. H. Smith. . .	×	1	2	3	×	1	2	3	4	5	×	1	
T. S. Jewett. . .	1	×	1	2	3	4	5	×	1	2	3	×	
M. H. Price. . .	1	S	S	S	4	×	1	2	3	4	5	×	
D. H. Jones. . .	1	2	S D	S D	S D	6	×	1	2	3	4	5	
H. L. Robins. . .	1	2	×	1	2	3	4	5	×	1	2	3	
S. T. Stewart. . .	1	2	3	×	1	2	3	4	5	×	1	2	
LIEUTS.													
P. W. Monroe, 1st.	×	1	2	3	4	×	1	2	3	4	5	×	
A. J. Hendy, 2d.	×	1	2	3	4	5	×	1	2	3	4	5	
F. W. Carter, 1st.	1	L	L	L	4	5	×	1	2	3	4	5	
Benj. Burt, 2d.	1	×	1	2	3	4	5	×	1	2	3	4	
Sam'l. White, 1st.	1	×	A	A	A	4	5	×	1	2	3	4	
Rich'd Blake, 2d.	1	2	×	1	2	3	4	5	×	1	2	3	
Thos. Burns, 1st.	1	2	×	1	2	3	4	5	×	1	2	3	
Henry Lane, 2d.	1	2	3	×	1	2	3	4	5	×	1	2	
N. Hawthorne, 1st.	1	2	3	×	1	2	3	4	5	×	1	2	
S. W. Howells, 2d.	1	2	3	4	×	1	2	3	4	5	×	1	
G. D. Cooper, 1st.	1	2	3	4	×	1	2	3	4	5	×	1	
P. O. Willis, 2d.	1	2	3	4	5	×	1	2	3	4	5	×	

S.—Sick.
S. D.—Special duty.
L.—Leave of absence.
A.—Arrest.
×—Day of duty.

COMPANY ROSTER *for Guard Duty.*

JANUARY, 1885.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Sergt. T. Jones.	×	1	2	3	×	1	2	×	1	2	3	×	1	2		
" L. Smith.	1	×	1	2	3	S	S	6	×	1	2	3	×	1		
" H. Brown	1	2	×	1	2	×	1	2	3	×	1	2	3	×		
" W. Green	1	2	3	×	1	2	×	1	2	3	×	1	2	3		
Corp. S. White.	×	1	2	3	×	1	2	×	1	2	3	×	1	2		
" P. Grady.	1	×	1	2	3	D S	D S	D S	D S	×	1	2	3	×		
" M. Cody.	1	2	×	1	2	×	1	2	×	1	2	3	×	1		
" J. Sloan.	1	2	3	×	1	2	×	1	2	×	1	2	3	×		
Pvt. Adams. . .	×	1	2	3	×	1	2	3	S	S	S	S	7	×		
" Bird. . .	×	1	2	3	×	1	2	S	S	S	S	7	×	1		
" Casey. . .	×	1	2	3	×	1	2	D D	D D	D D	D D	7	×	1		
" Dorsey. . .	1	×	1	2	×	1	2	3	×	1	2	3	×	1		
" Ellis. . .	1	×	1	2	3	×	1	2	3	×	1	2	3	×		
" Ford. . .	1	×	1	2	3	×	1	2	3	×	1	2	3	4		
" Gray. . .	1	2	×	1	2	E D	E D	E D	E D	E D	9	×	1			
" Harris. . .	1	2	×	1	2	×	1	2	3	×	1	C	C	4		
" Inman. . .	1	2	×	1	2	3	×	1	2	3	×	1	2	3		
" Johnson. . .	1	2	3	×	1	2	×	1	2	3	×	1	2	3		
" Knight. . .	1	2	3	×	1	2	3	×	1	2	3	×	1	2		
" Lewis. . .	1	2	3	×	1	2	3	×	1	2	3	×	1	2		
" Miller. . .	1	2	3	×	1	2	3	4	×	1	2	3	4	×		

S.—Sick.
F.—Furlough.
D. S.—Detached service.
D. D.—Daily duty.
E. D.—Extra duty.
C.—Confinement.
×—Day of duty.

CHAPTER V.

MANUAL OF GUARD DUTY.

GUARD MOUNTING—INFANTRY, CAVALRY,
ARTILLERY.

DUTIES OF OFFICERS CONNECTED WITH GUARDS.

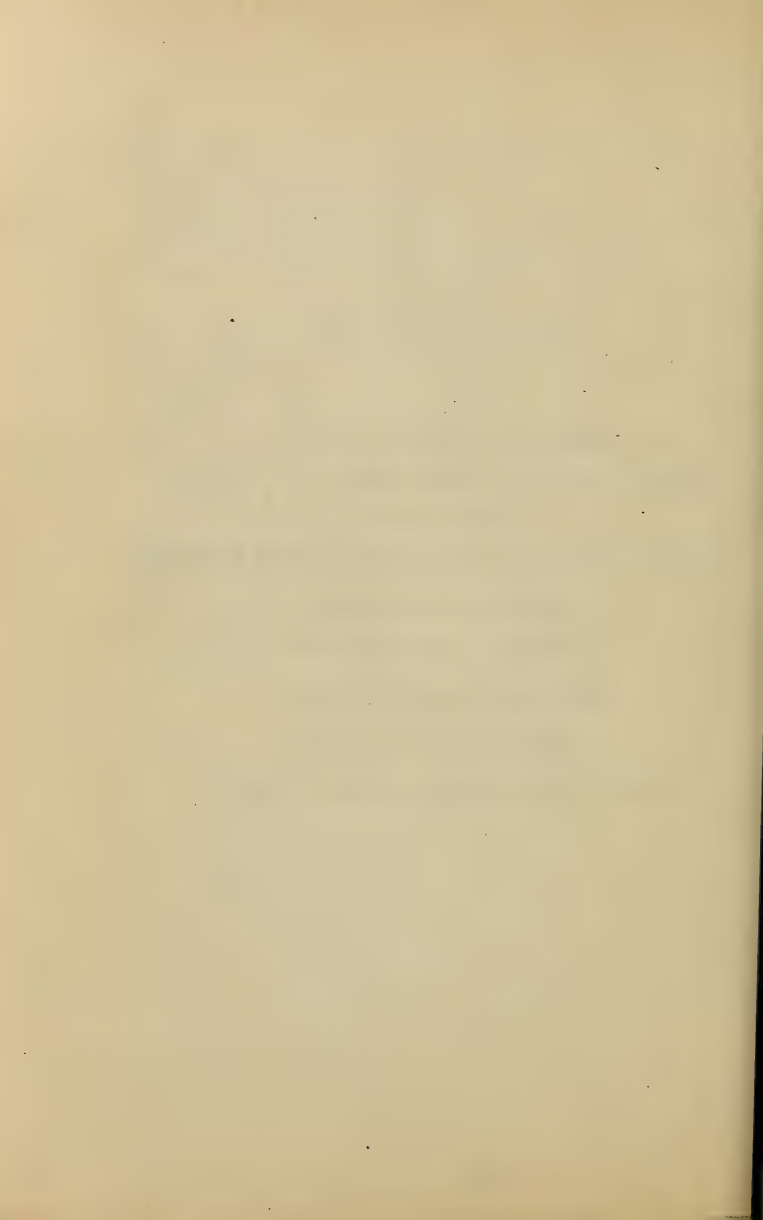
DUTIES OF SENTINELS.

GENERAL INSTRUCTIONS.

GRAND GUARD MOUNTING.

PICKETS AND OUTPOSTS.

TRENCH, POLICE, AND PROVOST GUARDS.



GUARD MOUNTING (INFANTRY).

The hour for guard mounting is appointed by the commanding officer.

The adjutant will, when practicable, cause three camp-colors to be planted on the regimental or garrison parade; one to indicate the post of the new officer of the day during guard mounting; the other two to indicate the wheeling points of the guard, or its subdivisions when marching in review. Markers, instead of camp colors, are sometimes posted to mark the wheeling points.

At the *assembly of guard details*, the men named for duty fall in on their respective company parade grounds, facing to the right, the non-commissioned officers and supernumeraries falling in as file-closers; the men form in double or single rank, according to the habitual formation of the command of which they form a part.

Each first sergeant then faces his detail to the left, verifies it, fixes bayonets, brings it to rear open order, inspects the dress and general appearance, replaces by a supernumerary any man whose condition makes him unfit to march on guard, and then brings his detail to close order.

The band takes post on the regimental or garrison parade, so that the left of its front rank shall be twelve yards to the right of the front rank of the guard when the latter is formed; or it may take any other position, designated by the adjutant, and march, while playing, to its post as above.

The adjutant takes post in view of the band, usually at some point on the edge of the parade.

The sergeant major takes post on the left of the adjutant.

The adjutant gives the signal for the *adjutant's call*, at the conclusion of which the band plays a march in quick or double time, as may be directed, and the adjutant,

sergeant major and band, if the latter be not already at its post, march to the regimental or garrison parade, and take post; the adjutant, so as to be twelve yards in front of and facing the centre of the guard, when the latter is formed; the sergeant major facing to the left, and twelve yards to the left of the front rank of the band.

From whatever point the adjutant and sergeant major start, they should arrive on the ground on which the guard is to be formed so as to be either on the line perpendicular to, and passing through the centre of the guard when formed or on the line of the guard.

The adjutant, standing at attention, superintends the formation of the guard.

The details are conducted to the parade by the first sergeants, so as to arrive upon the line from the rear. The detail which arrives first is so conducted that, upon halting, the breast of the right front rank man shall be near to, and opposite the left arm of the sergeant major.

The sergeant, having halted his detail, places himself in front of and facing the sergeant major, at a distance equal to, or greater than the front of his detail. He then commands:

1. *Rear open order.* 2. MARCH.

At the second command the ranks are opened; the front rank dresses up to the line of the sergeant major and first sergeant, the right front rank man placing his breast against the left arm of the sergeant major; the rear rank, if there be one, steps back and halts three yards in rear of the front rank; the non-commissioned officers step back and halt three yards in rear of the rear rank, or of the front rank, if there be no rear rank; the supernumeraries step back three yards in rear of the non-commissioned officers; all dress to the right.

Seeing the ranks opened, the sergeant commands:

3. FRONT,

salutes the sergeant major, and reports:

The detail is correct, or, (So many) sergeants, corporals, or privates are absent.

He then passes by the right of the guard and places

himself three yards in rear of the supernumeraries of his company.

A first sergeant, in reporting, salutes an acting sergeant major, though the latter be junior to him.

The other details, as they arrive, form in similar manner on the left of the first. Each first sergeant places himself opposite the left of his detail, faces the sergeant major, opens ranks, salutes, reports, and places himself in rear of his supernumeraries as already prescribed. The rear rank, the non-commissioned officers and supernumeraries of each detail, dress on the rear rank, the non-commissioned officers, and supernumeraries of the detail next preceding. The rear rank closes to the right.

The company details alternate in taking the right of the line.

The sergeant major returns the salutes of the first sergeants with the right hand. All the details having been reported, he draws his sword, and passing along the front of the guard and returning along the front of the rear rank, verifies the details by count, and resumes his post on the right.

He then commands :

1. *Count.* 2. *FOURS,*

and if necessary completes the left four as prescribed in tactics.*

Privates ordered into the line of file-closers distribute themselves equally in rear of the guard.

The sergeant major then divides the guard into two platoons of equal front ; after which he commands :

1. *Right.* 2. *DRESS.*

* If the left four contain three men or less, they are ordered into the line of file-closers; if it contain four men they are placed in the front rank, and numbers one and four are covered by numbers two and three of the rear rank of the four next on the right; if it contain five men the front rank is completed, number one covered, and number four covered by number three taken as before; if it contain six men, the front rank is completed, the other two men covering numbers one and four; with seven men, number three, rear rank is left blank. In single rank, the incomplete four may be ordered into the line of file-closers. Privates so ordered into the line of file-closers are not file-closers, nor will they without orders perform the duties of file-closers.

He verifies the alignment of the ranks, file-closers, supernumeraries and first sergeants, then returns to the right of the front rank and commands :

3. FRONT,

passes to the front of the center of the guard, and without halting, turns to the right and advances to a point midway between the guard and the adjutant, where he halts, salutes, and reports :

Sir, the details are correct, or, Sir, (so many) sergeants, corporals, or privates are absent.

The adjutant acknowledges the salute, and gives the order,

Take your post.

The sergeant major then returns to the *carry*, faces about as prescribed for officers, approaches to within two yards of the center of the guard, turns to the right without halting, advances three yards beyond the left flank of the guard, turns to the left and places himself, facing the front, on a line with the front rank of the guard and three yards to its left.

The officers of the guard place themselves on the line of the front rank, midway between the band and the guard. They should approach this position from the rear and in time at once to proceed, as soon as the sergeant major has made his report to the adjutant, to their respective posts, the senior three yards in front of the centre of the first platoon, the junior three yards in front of the centre of the second platoon, both facing to the front. If there be but one officer, he places himself three yards in front of the centre of the guard. If there be two officers, and no division of the guard into platoons, the officers take post, the senior opposite the centre of the right half, the junior opposite the centre of the left half of the guard and three yards from it. As soon as the junior officer has taken his post, both officers draw sword together. The adjutant also draws sword at the same time.

The adjutant then commands :

1. *Officers and non-commissioned officers, to the front and centre.* 2. MARCH.

At the command *march*, the officers of the guard advance to the front, closing in obliquely upon each other, and halt at three yards from the adjutant; if there be but one officer, he advances straight to the front, and halts at three yards from the adjutant.

The non-commissioned officers pass by the flanks of the guard and form in line, in order of rank from right to left, three yards in rear of the officers. Non-commissioned officers passing by the left flank, pass between the guard and the sergeant major. If there be but one officer, the word "officer" is substituted for "officers," the first word of the above command. If there be no officer, the words "officers and" are omitted; the non-commissioned officers in this case take post three yards from the adjutant.

The adjutant then assigns their places in the guard, in the order of rank as follows:

Senior officer, *commander of the guard, and chief of the first platoon*; junior officer, *chief of second platoon*; senior sergeant,* *right guide and guide of first platoon*; second sergeant,* *left guide, and guide of second platoon*; the remaining non-commissioned officers as file-closers of the first and second platoons.

If there be but one officer of the guard, the senior sergeant is assigned as chief of the second platoon, the second as right guide, and so on.

If there be no officer of the guard, the senior sergeant is assigned to the command of the guard, and the remaining non-commissioned officers to posts in order of rank.

In making these assignments the adjutant passes in front of the officers, from right to left, by their left and rear to the right of the non-commissioned officers, along their front from right to left; then passing in their rear, to their right, by the right of the officers, he resumes his post and faces the guard.

Having resumed his post the adjutant commands:

1. *Officers and non-commissioned officers,*
2. *To your posts,*
3. MARCH.

* Or non-commissioned officer.

If there be but one officer, or if there be no officer of the guard, the adjutant commands:

1. *Non-commissioned officers*, 2. *To your posts*, 3. *MARCH*.

At the command *march*, the senior officer stands fast; the junior officer faces about, and by an oblique movement resumes his post three yards in front of the centre of the second platoon and faces to the front; the non-commissioned officers face about and take the posts assigned them; the senior and second sergeants place themselves respectively on the right and left of the front rank of the guard; the remaining non-commissioned officers, passing by the flanks of the platoons to which they are assigned, take their places in the line of file closers, in rear of their respective platoons.

Non-commissioned officers assigned as chiefs of platoons, take posts in the line of file-closers, opposite the centres of the platoons to which they are assigned. If the guard be too small to be divided into platoons, the senior sergeant, if commanding the guard, places himself on the right of the front rank, and is covered by the right guide in the rear rank, or in the line of file-closers if there be no rear rank.

The officer and non-commissioned officers having taken their respective posts, the adjutant directs the senior officer:

Inspect your guard, Sir,

at which the latter faces about and commands:

1. *Order*, 2. *Arms*, 3. *Inspection*, 4. *Arms*.

If there be no officers of the guard, the adjutant brings the guard to *order* and *inspection arms*, and himself inspects it.

The sergeant major, supernumeraries and first sergeants come to *order arms* with the guard.

The senior officer returns sword, and then proceeds to the right of the front rank of the guard and begins his inspection.

If he desire the junior officer to inspect the rear rank, he will, after giving the command *inspection arms*, and before returning sword, direct the junior officer:

Inspect the rear rank, Sir.

At the command *order arms*, the junior officer will come to the *order*; at the command *inspection arms*, he will resume the *carry*. If directed to inspect the rear rank, he will return sword, face to the right, and, passing by the right flank of the front rank, will begin his inspection on the right of the rear rank.

If not directed to inspect the rear rank, he will remain at the *carry* until the senior has begun his inspection of the front rank, when he will face about and stand at *place rest*, facing the guard, until the inspection of the senior is ended, when he comes to *attention*, resumes the *carry*, faces about, and comes to an *order*.

The adjutant returns sword, and during the inspection observes the general condition of the guard, and replaces by a supernumerary any man who does not present a creditable appearance.

During the inspection the band plays.

The inspection ended, the new officers of the day take post in front of and facing the centre of the guard, and sixty yards, or more, if the size of the parade admit, from it.

The old officer of the day takes post three yards to the right and one yard to the rear of the new officer of the day.

The adjutant places himself about thirty yards in front of and facing the centre of the guard, draws sword and commands:

1. *Parade*, 2. *REST*, 3. *SOUND OFF*.

At the second command, the guard, sergeant, major, supernumeraries, and first sergeants, come to *parade rest*.

Immediately after the command *sound off* the officers of the day together assume the position of *parade rest*, with arms folded. The adjutant comes to an *order* and *parade rest*.

At the command *sound off* the band plays along the front of the officers of the guard, to the left and back to its place on the right, when it ceases.

The band steps off as it commences playing. It marches straight to the front and wheels to the left, so that on the

completion of the wheel its centre will be on a line parallel to the front of the guard and about fifteen yards from it. When the front of the band is twelve yards beyond the left of the guard, it will countermarch and return to its place, wheeling on the same ground as before. It will march three yards more than its depth, to the rear of its place in line, countermarch, and halt when its front is on a line with the front of the guard. The band will march, countermarch, wheel, halt, commence and cease playing, at the signal of the drum major.

The adjutant comes to *attention* and *carry* when the music ceases, and then commands:

1. *Guard*, 2. ATTENTION, 3. *Carry*, 4. ARMS, 5. *Close order*, 6. MARCH.

The guard, sergeant major, supernumeraries, and first sergeants come to attention at the command; the guard and sergeant major only come to the *carry*; at the command *march*, the guard closes ranks, the officers face about, place themselves two yards in front of the centres of their respective platoons, and face the front; if there is but one officer, he places himself two yards in front of the centre of the guard; if two officers and no division of the guard into platoons, the junior places himself, passing by the left flank of the guard, in the line of file-closers, and in rear of the centre of the left half of the guard.

The adjutant then commands:

1. *Present*, 2. ARMS.

The guard and the sergeant major *present arms*. The adjutant faces the new officer of the day, salutes, and reports:

Sir, the guard is formed.

The new officer of the day, acknowledging the salute with the right hand, directs the adjutant:

March the guard in review, Sir.

If the adjutant be senior to the officer of the day, he makes his report without saluting; the officer of the day then salutes, and gives the adjutant the same directions as before; the adjutant then returns the salute.

The adjutant then faces about and commands:

1. *Carry*, 2. ARMS, 3. *Platoons right wheel*, 4. MARCH.

If not already there, the chiefs of platoons place themselves, at the third command, two yards in front of and facing the centres of their respective platoons. At the command *march*, the platoons wheel to the right on a fixed pivot; the right guide stands fast; the left guide conducts the marching flank of the second platoon; each chief superintends the wheel of his platoon, and hastens to the point where its left is to rest on the completion of the wheel, faces to the late rear, and when the marching flank approaches the perpendicular, commands:

1. *Platoon*, 2. HALT.

At the command *halt*, the guide of the first platoon passes along its front at a double time, with arms trailed.

Each guide places his left arm against the breast of his chief, who then steps back two yards, and commands:

1. *Left*, 2. DRESS, 3. FRONT.

Having dressed his platoon, he takes post two yards in front of its centre.

The band wheels to the right, and places itself twelve yards in front of the first platoon.

The adjutant places himself abreast of the first platoon, and six yards from its left flank. The sergeant major places himself abreast of the second platoon, and six yards from its left flank, covering the adjutant.

The adjutant then commands:

1. *Pass in review*, 2, *Forward*, 3. *Guide right*, 4. MARCH.

At the third command, the guides pass to the right flank, in front of their respective platoons, at a double time.

The adjutant, sergeant major, officers of the guard, chiefs of platoons, and drum major, if there be one, salute when at six yards from the new officer of the day; when at six yards beyond him, they return to the carry.

If senior to the new officer of the day, the adjutant does not salute.

Non-commissioned officers in command of platoons, salute with the sergeants' salute.

In saluting, the head is turned toward the new officer of the day.

At the approach of the band, both officers of the day

together assume the *attention*. The new officer of the day, only, returns the salute of the drum major, if there be one, with the right hand, and uncovers while the guard is passing, holding his hat with the right hand over the left shoulder, the old officer of the day meanwhile standing at *attention*.

The guard having passed the officers of the day, the adjutant and sergeant major halt at the same instant, return sword and retire.

The guard having passed them, the officers of the day turn toward each other and salute. The old officer of the day then gives the old or standing orders to the new.

The band, having passed the officers of the day, wheels to the left out of column, and places itself opposite the officers of the day and facing them, ceasing to play when the rear of the column has passed.

After ceasing to play, it will be so conducted from the parade ground by the drum major as not to obstruct the movements of the guard.

The first sergeants and supernumeraries remain at attention at an order while the guard is presented and wheeled into column. The senior first sergeant commands:

1. *Parade*, 2. REST,

at the command *march* for passing in review; and

1. *Supernumeraries*, 2. ATTENTION.

when the officers of the day come to attention. The first sergeants come to *parade rest* and *attention*, with the supernumeraries.

The guard having passed the officers of the day, each first sergeant brings his supernumeraries to a *carry* and *support*, or *right shoulder*, marches them to the company parade ground, and dismisses them.

Supernumeraries should be required to remain in the garrison or camp, in order to be on hand should they be required to replace a man on guard, who may for any cause be relieved.

The field music of the guard detaches itself from the band when the latter wheels out of the column, and remains in front of the guard, beginning to play when the band ceases.

The commander of the guard, when it has passed twelve yards beyond the new officer of the day, commands:

1. *Guide*, 2. *LEFT*.

At which the guides pass at a double time to the left flanks of their respective platoons.

He then commands:

1. *Continue the march*, 2. *Left into line wheel*, 3. *MARCH*, 4. *Forward*, 5. *MARCH*, 6. *Guide*, 7. *RIGHT*.

At the third command the guides halt, and each platoon wheels to the left on a fixed pivot. The command *forward* is given in time to add *march*, the instant the platoons unite in line. The chief of the second platoon takes his place two yards in rear of the centre of his platoon, passing around its marching flank at the command *forward*. At the same command, the guides take their places on the flanks of the guard, the right guide passing at a double time in front of the first platoon.

The commander of the guard then commands:

1. *Fours right*, 2. *MARCH*, 3. *Right shoulder*, 4. *ARMS*.

At the command *march*, he places himself on the left of the leading guide, and conducts the guard to its post, preceded by the field music.

The guard, if too small to be divided into platoons, may be wheeled to the right by the command:

1. *Right wheel*, 2. *MARCH*,

and passed in review by the same commands and means as above. The commander of the guard is two yards in front of its centre; the adjutant is six yards from its left flank, the sergeant major covers him on a line with the file-closers.

The commander of the guard, having passed twelve yards beyond the officer of the day, commands:

1. *Right forward*, 2. *Fours right*, 3. *MARCH*.

The guard is conducted to its post so as to pass six yards in front of the old guard, which it approaches from the left.

The officer of the day may direct the adjutant:

March the guard to its post, Sir.

The adjutant faces about and commands:

1. *Carry*, 2. *ARMS*, 3. *Guard to its post*, 4. *Fours right*, 5. *MARCH* (or, *double time, MARCH*).

At the fourth command the senior officer places himself, facing to the right, two yards in front of the right guide. The junior officer places himself in the line of file-closers in rear of the centre of the second platoon.

At the command *march*, the guard wheels by fours to the right; the field music of the guard places itself in its front; the senior officer takes command, placing himself on the left of the leading guide. The adjutant and sergeant major return swords and retire.

The officers of the day salute each other as before.

The first sergeants march off their supernumeraries, and the band is conducted from the parade ground by the drum major.

As the new guard approaches the guard house, the old guard is formed in line, with its field music two yards to its right. When the field music of the new guard arrives opposite its left flank, the commander of the old guard, if an officer, faces his guard and commands.

1. *Present*, 2. ARMS,

faces to the front and salutes when the front of the new guard is opposite the left of his own. The new guard having passed his field music, he resumes the carry, faces about and commands:

1. *Carry*, 2. ARMS.

The new guard, with arms at a carry, marches in quick time past the old guard, officers saluting individually on arriving opposite the left of the old guard.

The field music having marched three yards beyond the field music of the old guard, changes direction to the right, and, followed by the guard, changes direction to the left when on a line with the file-closers of the old guard. These changes of direction are made without command.

The commander of the guard halts in his own person on the line of the front rank of the old guard, allows his guard to file past him, and when its rear approaches, commands:

1. *Fours left*, 2. MARCH, 3. *Guard*, 4. HALT.

He establishes the left guide on the line of the front rank of the old guard, and three yards from its field music, and commands:

1. *Left*, 2. DRESS, 3. FRONT,

stepping back two yards during the dressing. He then takes his post two yards in front of the centre of his guard. The field music of the new guard posts itself with its left two yards to the right of the front rank, and on a line with it.

The new guard being dressed, the commander of each guard, if an officer, in front of and facing its centre, commands :

1. *Present*, 2. ARMS,

resumes his front and salutes, each turning his head toward the other. Having saluted, they resume the carry, face about and command :

1. *Carry*, 2. ARMS, 3. *Order*, 4. ARMS.

Should the guards be commanded by sergeants, they present with their guards, standing on the flank of their guard nearest to the other guard. If one guard be commanded by an officer, the other by a non-commissioned officer, the latter stands on the flank of his guard and presents with it.

The commander of the new guard then divides the guard into three reliefs, numbering them *first*, *second* and *third*, from right to left, and directs a list of the guard to be made; experienced soldiers are placed over the arms of the guard, and at the remote and responsible posts.

He then proceeds to take possession of the guard house,* and the articles and prisoners in charge of the guard. The sentinels and detachments of the old guard are at once relieved by members of the new guard. While this is done the two guards stand at *place rest*, and the old commander gives to the new all the information and instructions relating to his post.

The officers of the day visit and inspect the guard house, while the old guard is relieved, verify the number of prisoners, and then proceed to the office or presence of the commanding officer, who receives the report of the old

* Or guard tents. When the words *guard house* are used in the following pages, they will be understood to mean also guard tents, if in camp.

officer of the day, relieves him, and delivers his instructions to the new officer of the day.

In visiting the guard house, the officers of the day will each be saluted by his own guard.

Marching Off.

The sentinels and detachments of the old guard having come in, form on its left and are brought to an order; both guards are then brought to a *carry*.

The commander of the old guard then commands:

1. *Forward*, 2. *Guide right*, 3. MARCH.

When it has advanced six yards to the front, he commands:

1. *Fours right*, 2. MARCH.

At the command *march*, he takes his place on the left of the leading guide; the guard wheels by fours to the right, the field music begins to play, and the guard marches in quick time past the new guard, the officers individually saluting as they arrive opposite its left flank.

The commander of the new guard, if an officer, stands two yards in front of its centre while the old guard is passing; if a non-commissioned officer, he stands on the right of the front rank. When the field music of the old guard arrives opposite the left of his guard, if an officer, he faces his guard, commands:

1. *Present*, 2. ARMS,

resumes his front and salutes when the front of the old guard is opposite the left of the new guard.

The new guard is brought to a *carry* as soon as the old guard has passed, and when the latter has marched about fifty yards from the post of the guard, the commander of the new guard commands, if there be no arm racks:

1. *Order*, 2. ARMS, 3. *Stack*, 4. ARMS, 5. LAY ON LOOSE PIECES,

and directs the sergeant of the guard:

Dismiss the Guard.

The sergeant of the guard will salute and command:

1. *Break ranks*, 2. MARCH.

Or, if there be arm racks, the commander of the guard directs the sergeant:

Dismiss the Guard.

The sergeant will then salute and command :

1. *Arms*, 2. *PORT*, 3. *Break ranks*, 4. *MARCH*.

Arms are at once placed in the racks.

The old guard having arrived at the regimental or garrison parade, is formed in line and halted by its commander, who then commands :

1. *Arms*, 2. *PORT*, 3. *Open*, 4. *CHAMBER*, 5. *Carry*, 6. *ARMS*.

He sees that no piece remains loaded. Each man closes the breech block of his piece, without command, after it is inspected.

The commander of the old guard then commands :

1. (Such) *Company detail*, 2. *Two paces to the front*, 3. *MARCH*,

and directs the senior non-commissioned officer or private of such detail :

Dismiss the detail,

and so on until all the details are dismissed.

Each detail is marched to its company parade ground and then dismissed by the chief of squad, who examines the arms and accoutrements of his men, and causes them to be put away in good order.

Undress Guard Mounting.

In bad weather, at night, or after long marches, *undress* guard mounting will replace the dress guard mounting.

It is conducted on the same principles as dress guard mounting, except that the field music sounds off, standing on the right of the guard, and that the division into platoons and march in review are dispensed with. The music, at the discretion of the commanding officer, may be dispensed with.

Cavalry Guard Mounting, Dismounted.

Guard mounting for Cavalry dismounted is executed in the same manner and by the same commands, as for Infantry, excepting only that the commands are modified to meet the requirements of the arm used.

If the guard be fully armed, the adjutant or senior officer of the guard may inspect all, or a part only of the arms.

In the first case, he commands:

1. *Inspection*, 2. ARMS.

In the second case, he commands:

1. *Inspection*, 2. CARBINE, (2. Sabre or pistol) according to the arm he wishes to inspect.

Cavalry Guard Mounting, Mounted.

Mounted guard mounting is conducted in single rank, on the same principles as guard mounting dismounted, with the following modifications,

No supernumeraries are formed with the guard; the first sergeant inspects the dress and general appearance of his detail before causing it to mount. The sabres of the first sergeants are drawn; the sabres of the details are in the scabbard.

The officers and non-commissioned officers take the distance of six yards from the rank when at open order, and one yard when at close order; the first sergeants, in reporting, salute with the sabre, and then place themselves six yards in rear of the non-commissioned officers of the guard. The assignment of officers and non-commissioned officers is omitted, the non-commissioned officers remaining in the position above prescribed; the guide of each platoon is the file on the flank toward which the guide is announced.

If any man does not present a creditable appearance, the Captain is notified through the first sergeant, and he sends a man to the officer of the guard, at the guard-house, to replace him.

If there be no officer of the guard, the adjutant, when inspecting, notifies the two senior non-commissioned officers to serve as chiefs of platoons; or, if the division of platoons be omitted, he notifies the senior non-commissioned officer to command the guard; the non-commissioned officer places himself on the right of the rank. The adjutant omits the commands *parade rest* and *guard attention*, and to present the guard, commands:

1. *Draw*, 2. SABRE, 3. *Present*, 4. SABRE.

The platoons wheel to the right, as explained in the School of the Company, mounted.

The officers of the day do not fold their arms, and the first sergeants, having taken their posts, remain at attention till the rear of the guard has passed the officers of the day, when they return their sabres and retire.

At the guard-house, the officer of the new guard, after forming it in line, dresses it on the line of the old guard, without regard to the distance from the trumpeters of the old guard, and the commands *present sabre* and *carry sabre* are substituted for the commands for the *carbine*.

The reliefs call off from right to left, and march to the various posts in column of fours; the men from right to left in each four fall out, and take post successively from the head of the column; the sentinels relieved form fours successively at the rear of the column.

The old guard being relieved, the new guard dismounts. One-third of the horses are kept saddled and bridled for immediate use; the bridles of the remaining horses may be removed and the girths loosened, when safety permits.

Stable Guards (Cavalry).

Stable-guards are for the protection of the horses, equipments and forage, as well as for the enforcement of the special regulations in regard to stables and horses.

A non-commissioned officer has charge of the stable-guard, which is large enough to relieve the men on post every two hours. They sleep in their tents, if in camp, and are called by the non-commissioned officers when wanted. The latter will take all precautions necessary to prevent the escape of loose horses.

The sentinels of the stable-guard will be posted and relieved like those of other guards. They are forbidden to strike or otherwise punish horses, and, if consistent with safety, wear the sabre belt only when on post at the stable or picket line.

The employment of stable guards for *police* and *fatigue duty at the stables* is strictly forbidden; but this will not

prohibit men not on post from being called upon to groom their own horses, or to assist in feeding grain before reveille.

Stable and Park Guard. (Artillery.)

The pieces, caissons, etc., with their ammunition and stores, as well as the horses, harness, and forage, are in charge of a stable and park guard consisting of two non-commissioned officers and as many privates as may be necessary.

A Lieutenant of the battery is detailed daily as *battery officer of the day*, or orderly officer; the stable and park guard is under his immediate orders, and those of the Captain.

It is the duty of this guard to enforce the special regulations in regard to the stables, horses, and park.

The sentinels of the stable and park guard will be posted and relieved like those of other guards. They are forbidden to strike or otherwise punish horses; and wear the sabre-belt only when on post at the stable or picket-line.

The sentinels over the horses or in charge of prisoners, receive orders from the stable sergeant, so far as the exercise of his duties is concerned.

The employment of guards for *police* and *fatigue duty at the stables* is strictly forbidden; but this will not prohibit men not on post from being called upon to groom their own horses, or to assist in feeding grain before reveille.

This method of guard-duty is the only one practicable in campaign, or on the march; its observance in garrison keeps a battery in constant readiness for service, and increases its efficiency; when ordered to move, the battery has not to make a complete change of system in the manner of protecting public property, and in all the interior details of duty.

Artillery Guard Mounting. (Battery.)

At the *assembly of guard details*, the men warned for stable and park guard duty fall in on the battery parade-ground, in two ranks facing to the right; the non-commissioned officers and supernumeraries fall in as file-closers;

the first sergeant then faces the detail to the left, verifies it, opens the ranks, causes sabres to be drawn, inspects the dress and general appearance of the men, replaces by a supernumerary any man whose condition makes him unfit to march on guard, and then closes the ranks. If the supernumerary be no longer required, he is dismissed.

The trumpeters take post on the battery or garrison parade-ground.

At *adjutant's call*, the new battery officer of the day, who mounts the guard, takes post so as to be six yards in front of and facing the centre of the guard when formed.

The first sergeant marches his detail to the parade-ground, the trumpeters sounding a march in quick time, and halts the detail in line so that the right file of the front rank shall be two yards to the left of the left trumpeter; he then places himself two yards in front of the centre of his detail, salutes and reports to the officer:

Sir, the detail is correct; or, Sir, (so many) non-commissioned officers or privates are absent.

He then faces to the left, and takes post two yards to the left of the front rank.

The officer then draws sabre and commands:

1. *Rear open order*, 2. MARCH.

At the command *march*, the ranks are opened; the front rank dresses to the right, the rear rank steps back three yards, halts and dresses to the right; the senior non-commissioned officer places himself on the right of the front rank; the other non-commissioned officers three yards in rear of the rear rank. The officer verifies the alignment of both ranks and commands:

3. FRONT.

He then places himself six yards in front of, and facing the centre of the guard, and commands:

1. *Inspection*, 2. ARMS,
returns his sabre and inspects the guard.

The inspection being finished, the officer places himself six yards in front of, and facing the centre of the guard, draws his sabre and commands:

1. *Parade*, 2. REST, 3. SOUND OFF.

The trumpeters sound off, remaining on the right of the guard.

The officer then commands :

1. *Guard*, 2. *ATTENTION*, 3. *Close order*, 4. *MARCH*,
5. *Guard to its post*, 6. *Right*, 7. *FACE*, 8. *Forward*, 9.
MARCH.

At the ninth command, the guard moves to its post preceded by the trumpeters, who sound a march in quick time ; the senior non commissioned officer marches near its left and rear, so as to observe its movements.

As the new guard approaches the guard house, the old guard is formed in line, its commander on the right of the front rank : when the trumpeters of the new guard arrive nearly opposite its left, the commander of the guard commands :

1. *Present*, 2. *SABRE*.

The new guard having passed, he commands :

1. *Carry*, 2. *SABRE*.

The new guard marches in quick time past the old guard, the commander saluting.

The trumpeters having reached three yards beyond the right of the old guard, change direction to the right, and, followed by the guard, change direction to the left when on a line with the file-closers of the old guard ; the changes of direction are without command. The commander of the new guard halts on the line of the front rank of the old guard, and allows his guard to march past him ; when its rear, after changing direction to the left, approaches, he halts the guard, faces it to the left, places himself three yards to the right of the old guard, and in line with its front rank, and then dresses the guard to the left. The trumpeters are two yards to the right of its front rank.

The new guard being dressed, the commander of each guard commands :

1. *Present*, 2. *SABRE*,

salutes, and then commands :

1. *Carry*, 2. *SABRE*.

The commander of the new guard now divides the guard

into three reliefs, numbers them *first, second, and third*, from right to left, and directs a list of the guard to be made; he then takes possession of the guard-house and the articles and prisoners in charge of the guard.

While the sentinels are relieved, the two guards stand at *place rest*, and the commander of the old guard gives to the commander of the new all the information and instructions relating to his post.

The sentinels of the old guard having come in, form on its left, and both guards are brought to a carry; the trumpeters place themselves two yards to the right of the old guard on a line with the front rank; the commander of the old guard places himself two yards in front of its centre; the commander of the new guard places himself on the right of its front rank; the commander of the old guard marches it, with the guide right, six yards to the front, when he commands:

1. *By the right flank*, 2. MARCH.

At the command *march*, the guard faces to the right; the trumpeters begin to sound, and the guard marches in quick time past the new guard, which stands at *present sabre*, the commanders of both guards saluting; the old guard is then marched to the battery parade-ground and dismissed.

The new guard is brought to a carry as soon as the old guard has passed.

The commander of the guard then makes himself acquainted with all the instructions of his post, visits the sentinels, questions them and the non-commissioned officers relative to the instructions they have received from the old guard.

The new officer of the day visits and inspects the guard house, verifies prisoners, etc.

ARTILLERY UNDRESS GUARD MOUNTING will replace dress guard mounting under the same circumstances as prescribed for Infantry. It is conducted on the same principles as dress guard mounting; the music may be dispensed with at the discretion of the commanding officer.

The general orders for all members of the stable and park guard are the same as for Infantry.

All persons in service, whatever be their rank, are required to observe proper respect towards sentinels. Whenever saluted properly by a sentinel, the salute must be returned. Only those entitled to a salute should return it.

Between Retreat and Reveille sentinels do not salute, but stand attention when an officer passes. The officer acknowledges the attention by a salute of the hand. Any person entitled to have the guard turned out for him, and not wishing it, touches his cap, or calls out loud enough to be heard by No. 1: "Never mind the guard."

All orders relating to the guard are sent by the commanding officer to the Officer of the Day, who in turn transmits them to the guard, and sees that they are carried out properly.

The officer of the day is an officer detailed to carry out all orders, and enforce all regulations, discipline and police of camp or garrison, while he is on duty. He is really an acting commanding officer. His tour lasts for 24 hours. In camps or garrisons of less than a regiment, captains are detailed as officers of the day. In brigades, field officers are detailed for the brigade. After having inspected their guards, at the guard house or tent, verified the number of prisoners, property, etc., the officers of the day present themselves to the commanding officer—the old officer of the day on the right of the new one, and both salute with the right hand. The old officer of the day says: "Sir, I report as old officer of the day;" the new one: "Sir, I report as new officer of the day." After instructions are given they withdraw.

The officer of the day is responsible for the enforcement of the police regulations, and the cleanliness of the post or camp. Fatigue parties will be furnished him when the number of prisoners is insufficient for police purposes.

The officer of the day visits the guards during the day at such times as he may deem necessary, and makes his rounds at night at least once after 12 o'clock.

The officer of the day must see that the officer of the guard is furnished with the parole and countersign before *retreat*.

Officer of the Guard.

During the time of relieving the sentinels and of calling in the small posts, the old commander of the guard will give to the new all the information and instructions relating to his post.

After the sentinels and outposts of the old guard have been relieved, the commander of the new guard will visit them, and question the non-commissioned officers and sentinels relative to the instructions they may have received from the old guard.

Officers are to remain constantly at their guards, except while visiting their sentinels, or necessarily engaged elsewhere on their proper duty.

Commanders of guards leaving their posts to visit their sentinels, or on other duty, are to mention their intention to the next in rank of the guard.

If ordered to prepare his guard for inspection by any person from whom he properly receives orders, the officer of the guard brings his guard to *rear open order, inspection arms, or arms port*, as directed.

In making his own prescribed inspections of the guard, he will first bring it to *rear open order*.

The commander of a guard receives and obeys the orders only of the officer of the day and the commanding officer. A junior officer of the guard will obey the orders of the senior.

Orders received by the commander of a guard through any source other than the officer of the day will be at once reported to the latter.

The commander of a guard is responsible for the discipline of his guard. He will see that all its members are thoroughly instructed in their orders and duties, and that they properly perform them.

His tour of duty begins on his arrival at his post; it ends when all of his sentinels and detachments are relieved.

He will make a report of his tour of service, including all outposts of his guard, and present it to the officer of the day at the end of his tour. This report is made in form prescribed, and is shown on pages 192-93.

List of Prisoners.

NOTE.—Name first the prisoners under sentence by G. C. M., commencing with those who have longest to be confined.

[illegible]

_____,
_____*Regiment of*_____,
Commanding the Guard.

A commander of a guard leaving his post for any cause, will mention his intention, and the probable duration of his absence, to the next in rank of his guard.

He will inspect his guard at reveille and retreat, and have the guard formed and the roll called at tattoo.

He will communicate the countersign to the non-commissioned officers of his guard, and see that it is duly communicated to the sentinels on post, before the hour for challenging to begin.

He will see that the proper calls are sounded at the hours appointed by the commanding officer.

He will see that the sentinels are relieved every two hours, unless the weather or other cause make it necessary or proper that it be done at shorter or longer intervals.

After receiving the report of the corporal he will inspect each relief before it goes on, and after it comes off post, and will assure himself that each sentinel is properly armed and equipped. This inspection is usually made with the relief at *arms port*, and with closed ranks. The relief that first goes on post need not be inspected by the officer of the guard.

Officers are not to take off their clothing or accoutre-

ments while on guard, without permission from proper authority.

When formed for any cause whatever, the guard should invariably be under arms.

When a fire breaks out, or any alarm is raised in a garrison, the guard is immediately turned out. If the case be at all serious, the *long roll* is beaten or the *fire alarm* sounded, and the commanding officer and the officer of the day are at once notified.

The officer of the guard will detain at the guard house all suspicious characters, or parties attempting to pass a sentinel's post without authority, reporting such action to the officer of the day, at once if the case demand.

If a sentinel call for "*the guard*" the officer of the guard will at once send a patrol to such sentinel's post. If the danger be great, in which case the sentinel's piece will be discharged, the patrol will be as strong as possible. When practicable, there should always be at least two privates of the guard at the guard house, in addition to the sentinels and non-commissioned officer on duty.

When any person entitled to compliment passes a guard between reveille and retreat, the officer of the guard will see that it is promptly formed, if it be necessary to form it. (For list of persons entitled to compliment, see page 212.)

He will receive the report of the sergeant of the guard, returning the salute of the latter with the right hand.

He will then draw his sword, dress his guard to the right, and place himself two yards in front of its centre. When the person in whose honor the guard is turned out approaches, the commander of the guard faces his guard, commands :

1. *Present*, 2. *ARMS*,

resumes his front and salutes, reporting, if it be the commanding officer or officer of the day, for whom the guard is formed,

Sir, the guard is present; or, Sir, the guard and prisoners are present; or, Sir, the guard is present and the prisoners are secure,"

except that at guard mounting the officers of the guard simply salute, without making any report to the officers of the day.

When his salute is acknowledged, he will resume the carry, face about, command:

1. *Carry*, 2. *ARMS*,
and resume his proper front.

If the person entitled to compliment pass in rear of the guard, it does not salute, but stands at a carry facing to the front.

If such person pass in front or on either side of the guard, it being already formed, the commander of the guard presents arms and salutes, without reporting, as such person passes.

After a person has been once saluted by a guard, he is not a second time saluted while he remains in the vicinity. Should he pass the guard under these circumstances, it being already formed, it is brought to attention.

During the presence of both the old and new guards at the guard house, the officers of the day will each be saluted by his own guard.

If other officers entitled to a salute approach, the senior officer of the two guards will command:

1. *Old and new guards*, 2. *Present*, 3. *ARMS*.

Each officer of the guard will first bring his own guard to a carry. The junior will salute at the command *present arms* given by the senior.

The national or regimental colors passing a guard will be saluted with the *present*, the drums of the guard playing a march, the trumpets sounding, "*to the color*."

Guards do not turn out as a matter of compliment after sunset, nor will any compliments be paid by the guard, except as prescribed for grand rounds, between retreat and reveille.

A guard may be turned out between retreat and reveille by direction of any person from whom its commander properly receives orders. To present the guard in this case, it is formed, dressed and presented as above described, excepting that the commander salutes and reports without bringing the guard to *present arms*.

A guard is invariably turned out at night when visited by the grand rounds. In this case, the officer of the guard will see that the guard is promptly formed. After dressing his guard, he will order a sergeant and two privates to advance to meet the grand rounds. He then takes his place two yards in front of the centre of his guard. At the call of the sergeant, "*The countersign is right,*" the officer of the guard will call,

Advance rounds.

Should he deem it necessary he may demand the parole of the officer of the rounds, advancing in the direction of the visiting officer to prevent any unauthorized person hearing the parole when given.

The guard is likewise turned out at night on the approach of any body of armed men, other than a returning relief of the guard itself. At the call of the corporal, the guard will be promptly formed; the officer of the guard takes his post in front of its centre and calls:

Advance one with the countersign.

If the countersign be correctly given, and if he have orders to pass such a party, he allows them to pass. If not, he at once notifies the officer of the day, and causes the party to await his orders.

In the same manner the guard is turned out at night for any large body of men, armed or unarmed. They will be advanced or detained as in the above instance.

On the march, the guard with the prisoners will march in rear of the regiment.

It will take charge of prisoners, pick up stragglers, and perform such other duties as may be directed by the commanding officer.

When a camping party precedes the regiment, the new guard may be ordered to march with it. The guard, on reaching the camp, forms in line, in front of the centre of the ground marked for the regiment. The officer of the guard furnishes the sentinels required by the commander of the camping party.

The Sergeant of the Guard.

Immediately after guard mounting, the sergeant of the

guard will prepare duplicate lists, setting forth the names, number of relief and posts of all the non-commissioned officers, musicians, and privates of the guard.

One list will be handed as soon as possible to the commander of the guard; the other will be retained by the sergeant.

The sergeant of the guard has general supervision over the other non-commissioned officers and the privates of the guard.

He must be thoroughly familiar with all the orders and duties of corporals of the guard and of sentinels.

He will see that reliefs are turned out at the proper time, and that the corporals thoroughly understand, and are zealous and prompt in the discharge of their duties.

He will designate a non-commissioned officer of the guard to take the place of the corporal whose relief is on post, should the latter be called away from the guard house.

He will cause the guard house and premises to be thoroughly policed, at such hours as may be designated for *police call* by the commanding officer; by prisoners, if there be such; by members of the guard, if there be no prisoners.

He is directly responsible for the property borne on the guard report, and will see that it is properly cared for. He should make lists of property taken out by working parties, and see that all articles so taken out are duly returned. If any articles are not so returned he will immediately report the fact to the officer of the guard.

He will send a member of the guard to wake company cooks, at such hour as may be directed, if this hour be before reveille. Neither the musicians of the guard, nor the non-commissioned officer on duty at the guard house will be sent on this duty.

If sentinels are numerous, the sergeants as well as the corporals may be required to relieve and post sentinels.

Sergeants assigned to reliefs, perform the duties prescribed for corporals of the guard. They will not be so assigned unless the number of corporals detailed for guard be less than the number of reliefs.

A sergeant should also be familiar with the duties of the officer of the guard, since he is often placed in command of a guard. In this case, his general duties are the same as those of the officer of the guard.

A non-commissioned officer in command of a guard will not receipt for property borne on the guard report, though he will be held accountable to the officer of the day for its safe keeping and preservation from injury, other than that resulting from fair wear and tear in service.

A non-commissioned officer in charge of a guard will perform the duties of the sergeant of the guard as well as those of the officer of the guard.

Whenever the guard is turned out, it is the duty of the sergeant of the guard promptly to form it.

The guard falls in, facing to the right, with bayonets fixed, in single or double rank according to the habitual formation of the command of which it is a part, and with arms at a *carry*; the field music will form so that its left is two yards to the right of the front rank. The sergeant, three yards in front of and facing the centre of the guard commands:

1. FALL IN, 2. *Left*, 3. FACE, 4. *Support*, 5. ARMS.

He then calls the roll,* each man answering "*Here*," and coming to a *carry* and *order arms*, as his name is called.

The sergeant then commands:

1. *Carry*, 2. ARMS,

faces the commander of the guard, executes the *sergeant's salute*, and reports:

Sir, the guard is present; or, *Sir, the guard and prisoners are present*; or, *Sir, the guard is present, and the prisoners are secure*.

He will then take his place on the right of the front rank of the guard.

* In calling the roll at night, it is customary for the sergeant to call off in succession the numbers of sentinels' posts on each relief separately, each man answering as the number of his post and relief is called. Thus, the sergeant will call, the first relief being on post: "Second relief, Corporal (So and So,) No. 1; No. 2; etc.

In forming the guard prior to marching off, the sergeant will command :

1. *Count*, 2. *FOURS*,

before reporting to the commander of the guard.

When a guard is visited by *grand rounds*, the sergeant of the guard with two privates is ordered to meet them. The sergeant places himself between the two men and advances toward the rounds. When within ten paces, he challenges. At the answer "*Grand rounds*" he will say:

"Advance, sergeant, with the countersign."

Having received the correct countersign, he will call to the commander of the guard,

"The countersign is right."

At the call of the commander of the guard "*Advance rounds*," the sergeant and the two privates will return to their places in the guard.

Should there be no sergeant on guard, the senior corporal performs the duties above prescribed for the sergeant of the guard.

The Corporal of the Guard.

The corporals of the guard should acquaint themselves with the duties of the officer, and the sergeant of the guard, as the exigencies of the service may require them to perform the duties of either.

Corporals of the guard are assigned to reliefs by the commander of the guard.

It is the duty of the corporal of the guard to post and relieve sentinels, and to instruct the members of his relief in their orders and duties as sentinels.

Immediately after the division of the guard into reliefs, the corporals will assign the members of their respective reliefs to posts, by number. Experienced soldiers are placed over the arms of the guard and at remote and responsible posts.

Each corporal will make a list of the members of his relief, including himself. This list should specify the number of the relief and the number of the post assigned to each member thereof. It should be made in duplicate,

one copy to be given to the sergeant or senior non commissioned officer of the guard as soon as completed, the other to be retained by the corporal.

As soon as the officers of the day have visited their respective guards, or as soon as directed by the officer of the guard, the corporal of the first relief posts his relief.

The following is the method prescribed :

The relief is brought to a *carry*. The corporal then commands :

CALL OFF.

Commencing on the right, the men call off alternately front and rear rank, one, two, three, four, and so on ; if in single rank they call off from right to left. The corporal then commands :

1. *Right*, 2. *FACE*, 3. *Support* (or, *Right shoulder*), 4. *ARMS*, 5. *Forward*, 6. *MARCH*.

In wet weather the relief may be marched at a *secure arms*.

The corporal marches on the left, and near the rear file, in order to observe the march. The corporal of the old guard marches on the right of the leading rank or file, and takes command when the last one of the old sentinels is relieved, changing places with the corporal of the new guard.

When the relief arrives at fifteen yards from a sentinel, he halts and faces to it with arms at a carry. At six yards from him the corporal commands :

1. *Relief*, 2. *HALT*.

The corporal then adds, according to the number of the post :

1. *No. (—)*, 2. *Arms*, 3. *PORT*.

Or, if the guard be armed with sabre or pistol only,

1. *No. (—)*, 2. *POST*.

In the first case, at the third command, the two sentinels come to *arms port* and approach each other.

In the second case, they approach each other at the command "*post*."

The old sentinel, under the supervision of both corporals, whispers his instructions to the one taking post.

The corporals advance and place themselves, facing each other, a little in advance of the new sentinel, the old corporal on his right, the new corporal on his left, both remaining at a *carry*.*

The instructions relative to the post having been transmitted, the new corporal steps back two paces and commands:

1. *Support*, (or, *right shoulder*,) 2. ARMS, 3. *Forward*, 4. MARCH.

The corporals take their respective places as the relief passes them. The old sentinel takes his place in rear of the relief as it passes him, at a *support*, or *right shoulder arms*.

The other sentinels are relieved and the new ones posted in similar manner.

The sentinel at the guard house, or No. 1, is the first relieved and is left behind.

The corporals, while posting their reliefs, will usually march at a *carry*, unless the posts are distant when they come to the *support* or *right shoulder* with their reliefs.

If sentinels are numerous, reliefs may be posted in detachments.

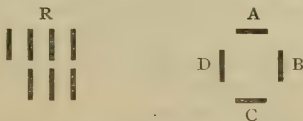
The detachments and sentinels of the old guard, having come in, are formed on its left.

To post a relief at any other time than at guard mounting, the corporal forms it by the commands:

1. (*Such*) *relief*, 2. FALL IN.

The relief is formed in double or single rank, (according as the guard is formed,) facing to the right with arms at a *carry*, and with bayonets fixed; the men should take

* The following diagram will illustrate the positions taken:



R is the relief; A, the new corporal; C, the old; D, the new sentinel; B, the old.

place according to the numbers of their respective posts, viz.; one, three, five, and so on, in the front rank; two, four, and so on, in the rear rank; or in the order of their respective posts from right to left, according as the relief is in double or single rank. The corporal, standing about two yards in front of the centre of his relief, then commands:

1. *Left*, FACE, 2. CALL OFF.

The men call off as prescribed above. The corporal then places himself on the right of the front rank, and executing the *sergeant's salute* reports to the officer of the guard:

Sir, the relief is present.

The relief, having been inspected, the officer of the guard directs the corporal, "*Post your relief.*" The corporal salutes and posts his relief as above prescribed. The corporal will execute, with his relief, the command of the officer of the guard for inspection.

If the necessity exists, the corporal, after his relief has been inspected, will command:

1. *Relief*, 2. LOAD, 3. *Carry*, 4. ARMS, and will post it as above.

To dismiss the old relief, its corporal halts it in front of the guard house. The new corporal falls out at the command "*halt.*" The old corporal faces his relief to the front, places himself on the right of its front rank, and, saluting the officer of the guard reports:

Sir, the relief is present.

After the inspection, the officer of the guard commands: "*Dismiss your relief.*"

The corporal, after saluting, then commands:

1. *Arms*, 2. PORT, 3. *Break ranks*, 4. MARCH.

When each corporal of the guard has become acquainted with the location of all the posts on which sentinels are placed, it is not necessary that both corporals accompany the relief when it is posted.

In this case the new corporal will post his relief as above described. Returning, he halts the old relief in front of the guard house, faces it to the front, and reports to the old corporal,

No. 1 is absent,

both corporals saluting. The old corporal, having previously assured himself of the presence of No. 1 at the guard house, reports to the officer of the guard :

Sir, the relief is present.

The relief is then inspected and dismissed as before.

Should the pieces be loaded while the relief is on post, the corporal will, after facing the relief to the front and before presenting it for inspection by the officer of the guard, command :

1. *Draw*, 2. CARTRIDGES, 3. *Carry*, 4. ARMS.

Each corporal should thoroughly acquaint himself with all the special orders of every sentinel on his relief, and see that each sentinel correctly transmits such orders *in detail* to his successor.

He will see that each sentinel, on being posted, clearly understands the limits and extent of his post.

Should any sentinel call for the corporal of the guard, the corporal whose relief is on post will in every case at once and quickly proceed to such sentinel's post.

Any violation of Regulations or any unusual occurrence reported by a sentinel, or coming to his notice in any other way, should at once be reported by the corporal to the officer of the guard.

Should any sentinel call for a relief, the corporal will at once proceed to the post of such sentinel, taking with him the man next for duty on that post. If relieved for a short time only, the corporal will see that the sentinel relieved is again posted as soon as the necessity for such relief ceases.

A corporal of the guard receives and obeys orders only from non-commissioned officers of the guard senior to himself, the officers of the guard, the officer of the day, and commanding officer.

Out of ranks and under arms, the corporal salutes with the *sergeant's salute*. If marching his relief, if not already there, he brings it to a *carry* before saluting.

The corporal salutes an officer whenever he passes, whether by day or night.

The corporal should carry his rifle with the bayonet fixed.

Immediately before the hour for challenging to begin, the corporal whose relief is on post will communicate the countersign to all the sentinels of his relief, excepting No. 1.

When challenged by a sentinel while posting his relief, the corporal will answer "*Relief.*" At the sentinel's order to halt, the corporal commands:

1. *Relief*, 2. HALT,

and at the order of the sentinel he advances alone to deliver the countersign, or to be recognized. When the sentinel says, "*Advance relief,*" the corporal commands:

1. *Forward*, 2. MARCH.

If to be relieved, the sentinel is then relieved as prescribed above.

The corporal of the guard will arrest all suspicious-looking characters prowling about the post or camp, all persons of a disorderly character disturbing the peace, and all persons taken in the act of committing some crime against the Government on a military reservation or post.

All persons arrested by corporals of the guard or sentinels on post will be at once conducted to the officer of the guard.

The corporal will examine parties halted and detained by sentinels, and if he have reason to believe the parties have no authority to cross sentinels' posts, will conduct them to the officer of the guard.

Corporals will ascertain the tents or bunks of all the members of their reliefs, in order to turn them out in case of necessity, in the least time and with the least confusion.

Should the guard be turned out, each corporal will wake his own relief and cause its members to fall in promptly.

There should be constantly on duty at the guard house, one non-commissioned officer, usually the corporal whose relief is on post.

Such non-commissioned officer takes post near the entrance of the guard house, and does not fall in with the guard when it is paraded.

He will answer calls from sentinels for the *corporal of the guard*. If called away, he will notify the sergeant of the guard before leaving the guard house. If a sentinel calls for *the guard*, he promptly notifies the officer of the guard.

He will see that no unauthorized person enters the guard house, or crosses the post of No. 1.

He will, at the proper time, notify No. 1 of the hours, if sentinels are required to call the hours or half hours of the night.

He will wake the corporal whose relief is next on post, in time for the latter to form his relief and post it the proper hour.

As a general rule, he will *advance* parties approaching the guard at night, in the same manner as sentinels on post advance like parties. Thus: The sentinel at the guard challenges and reports the answer to the corporal, as prescribed. The corporal, advancing at *charge bayonets*, or, if armed with the carbine, the third position of load, says;

Advance (So and So) *with the countersign*, or, *to be recognized*,

if there be no countersign used. The countersign being correctly given, or the party being duly recognized, the corporal says,

Advance (So and So),

repeating the answer to the challenge of No. 1.

The following are the exceptions to this rule:

1st. In case the answer to the challenge of No. 1 be "*Grand rounds*," the corporal will promptly notify the sergeant of the guard, and then the officer of the guard; after which he resumes his post.

2d. In case the answer to the challenge of No. 1 indicate of itself, that the party approaching is entitled to make grand rounds. (See page 199.)

Upon receiving the countersign or duly recognizing such party in the manner above prescribed, he will say, "*The countersign is right*," and will then call,

Turn out the guard, (So and So),

announcing the title of the officer challenged, without advancing him.

Thus, if the answer to the challenge of No. 1 be "*Officer of the day*," the corporal advances toward the party challenged, and cries,

Advance, officer of the day, with the countersign, or, to be recognized.

The officer of the day being duly recognized, the corporal says, "*The countersign is right*," and then calls :

Turn out the guard. Officer of the day.

He remains at the *charge bayonets* or third position of load until the commander of the guard calls, "*Advance, (So and So)*," when he returns to his post.

3d. In case of the approach of a body of armed men, other than a relief belonging to his own guard, he will, as soon as he perceives that the party is armed, call,

Turn out the guard. Armed party.

This, no matter what answer was made to the challenge of No. 1. The corporal remains in front of the guard, and prevents the approach of any member of such party until the call of the commander of the guard, "*Advance one with the countersign*," when he resumes his post.

If the party be mounted, the corporal calls,

Dismount,

before calling "*Turn out the guard*." If No. 1 turns out the guard for an *armed party*, the corporal will proceed as prescribed for grand rounds.

On the approach at night of any large body of men, whether armed or unarmed, the corporal will turn out the guard as in the last case.

Musicians of the Guard.

At guard mounting, the musicians of the new guard form with the band, and march in its rear with the rest of the field music of the command. If there be no band, they form in line with their left, twelve yards from the right of the front rank of the guard, and conform to the movements prescribed for the band, except that they do not wheel out of line after passing the officers of the day. Drummers march in rear of trumpeters or fifers. If there be but two musicians, the drummer marches on the left.

As soon as the band ceases, the field music begins to play.

The field music conforms to the movements of the guard while the latter marches to its post, keeping twelve yards in its front. It approaches the old guard from the left and marches along its front and six yards from it. When three yards beyond the field music of the old guard, it wheels to the right, and, when on a line with the file-closers of the old guard, to the left, both changes of direction being without command.

At the command "*fours left, march,*" the field music wheels to the left; at the command "*halt,*" it halts; at the command "*left dress,*" it closes in so that its left is two yards from the right of the front rank of the guard and on a line with it, and dresses to the left.

Musicians of the guard are members of the guard and are subject to the orders only of the commanding officer, the officer of the day, officers and non-commissioned officers of the guard.

They will fall in with the guard whenever it is formed, unless absent in the execution of their proper duty, placing themselves on a line with its front rank, and their left two yards from its right.

They will sound all calls prescribed by the commanding officer, and such other calls as may be ordered by proper authority, at such times and places as may be directed.

Should the guard be turned out for National or Regimental colors, the trumpeters of the guard will sound "*To the color,*" the drummers beating a march.

Musicians of the guard sleep at the guard house.

Orderly for the Commanding Officer.

The orderly for the commanding officer is selected by the adjutant, when so directed, at guard mounting, an extra man being detailed for guard for this purpose.

The selection will be usually made during the inspection of the guard. The soldier will be chosen, who is neatest in person and clothing, and whose arms and accoutrements are in the best condition. If there be doubt as to the

relative merits of two or more soldiers, the adjutant may proceed to the guard house and cause them to form in line a few paces to the right of the guard, after it has been brought to an order. They fall in facing to the right, with arms at a *carry*. The adjutant will then subject them to a more thorough inspection, causing them to take off portions of their clothing, if necessary. If doubt still exist, he will cause them to execute the manual of arms, to march, etc., both with and without the numbers, the most proficient being selected as orderly.

In making the selection of an orderly, men should not be stripped or drilled on the parade ground.

The adjutant will notify the commander of the guard of his selection.

When the guard has been brought to an order, at the guard house, or when the selection has been duly made, the commander of the guard will direct the soldier selected to report to the commanding officer. The soldier will then give his name, Company and Regiment, to the sergeant of the guard, and, leaving his rifle in the arm rack in his Company quarters, will proceed at once to the commanding officer, reporting:

Sir, I report as orderly.

The orderly is subject to the orders of the commanding officer only, during his tour.

He will follow the commanding officer, keeping about six yards in his rear, unless ordered away on duty, or excused by him from such attendance.

The orderly is usually excused from such duty between retreat and reveille, and is permitted to sleep in his Company quarters, or in such other place as the commanding officer may direct.

At reveille, or at such hour as directed, he will report again to the commanding officer.

He will remain on duty, until relieved by the orderly selected from the guard relieving his own.

The orderly is a member of the guard, and is borne on the guard report as such. He will be entered under the head of "Detail," as a private. His name, Company,

and Regiment, are entered after those of the corporals, in the place provided.

The Soldier on Guard.

Soldiers will not take off their clothing or accoutrements while on guard, without permission from proper authority.

They will not leave the immediate vicinity of the guard house without permission from the commander of the guard.

No soldier will drink any spirituous or intoxicating liquor while on guard.*

During his tour of guard duty a soldier is subject to the orders only of the commanding officer, officer of the day, the officers and non-commissioned officers of the guard.

When not on post nor engaged in the performance of some special duty, a soldier on guard will salute all officers who pass him ; if armed, with the *sergeant's salute*; if unarmed, with the hand. This rule applies at all hours of day or night.

Immediately upon breaking ranks, after guard mounting, each soldier not at once required for duty will place his musket in the arms rack, if such be provided, and will not remove it therefrom unless he require it in the performance of some armed duty.

Soldiers are assigned to reliefs by the commander of the guard and to post, generally, by the corporal of their relief. They will not change from one relief or post to another during their tour of duty, unless by order of the commanding officer, the officer of the day, or of the guard.

No soldier shall hire another to do his duty for him.

Soldiers on guard will hold themselves constantly ready for any duty upon which they may be ordered by proper authority.

Should the guard be formed, soldiers will fall in ranks under arms. At a roll call, each man, as his name, or

*Art. War, 38.—Any officer who is found drunk on his guard, party, or other duty, shall be dismissed from the service. Any soldier who so offends shall suffer such punishment as a court martial may direct.

number and relief is called, comes successively to *carry* and *order arms*, or to *order arms*, if already at a *carry*.

While on guard, bayonets should be constantly fixed. If the pieces be kept in an arm rack which require bayonets to be unfixed, they should be fixed immediately on being taken therefrom.

Orders for Sentinels on Post.

Orders for sentinels on post are divided into two classes, *general orders* and *special orders*. General orders are divided into *general orders proper*, *orders for saluting*, *orders in case of fire or disturbance*, and *night orders*.

GENERAL ORDERS.

*General orders proper.**

A sentinel on post will:

Take charge of his post, and all Government property in view;

Walk his post in a military manner, keeping constantly on the alert,† observing everything that takes place within sight or hearing of his post;

Report all breaches of orders or Regulations he is instructed to enforce;

Repeat all calls from posts more distant from the guard house than his own;

Will not quit his post until properly relieved;†

Take orders from, and allow himself to be relieved by an officer or non commissioned officer of the guard, the officer of the day or commanding officer, and these only.

A sentinel on post will carry his piece habitually at a *support*, or on either shoulder, but will never quit it. In wet weather, if there be no sentry box, he may carry his piece at a *secure arms*.

A sentinel will deliver up his piece, when ordered to do

* The orders printed in *italics* at the head of each of the divisions of general orders should be memorized by the sentinel.

† Art. War, 39.—Any sentinel who is found sleeping upon his post, or who leaves it before he is regularly relieved, shall suffer death, or such other punishment as a court martial may direct.

so, by any person from whom he lawfully receives orders while on post, but under no circumstances to any other person.

He will not hold any conversation not necessary to the discharge of his duties.

Upon being spoken to, or in speaking to any person, or when calling for any purpose, a sentinel should take the position of *arms port*, facing outward, that is, from that which he is guarding.

The position of *carry arms* is taken before saluting, challenging, or calling.

Mounted sentinels, in challenging and holding communications, take the position of *advance carbine*, *raise pistol*, or *guard*, according as they are armed with the carbine, pistol or sabre.

If a relief become necessary, by reason of sickness or other cause, the sentinel cries, "*Relief, corporal of the guard, No. (—)*," giving the number of his post.

To call the corporal of the guard for any other purpose than for a relief, the sentinel calls, "*Corporal of the guard, No. (—)*."

Every unusual or suspicious event noticed by a sentinel on post, should be at once reported by him to the corporal of the guard.

Should sentry boxes be provided, the sentinels in them stand at an *order arms*, or *parade rest*.

Sentry boxes are not to be used, excepting in wet weather.

In very hot weather, sentinels may be allowed to stand at an *order arms* or *parade rest* on their posts, provided they can in this position effectively discharge their duties. Sentinels must, however, before taking advantage of this privilege, obtain the express authority of the officer of the guard or of the day.

On being relieved, a sentinel will turn over to his successor all special orders pertaining to his post, *in detail*.

When a relief is fifteen yards from him, he will halt and face to it with arms at a *carry*. If to be relieved himself, he will come to *arms port* at the command of the corporal,

and will advance toward the new sentinel, and transmit to him all the orders of his post. Both sentinels then resume the *carry*, face outward, and step back one pace, aligning themselves on the old corporal if he be present. The old sentinel comes to a *support* or *right shoulder*, at the command of the corporal, and takes his place in rear of the relief as it passes him. When the relief is fifteen yards past him, the new sentinel begins to walk his post.

ORDERS FOR SALUTING.

Between reveille and retreat, salute all officers according to rank.

Between retreat and reveille, except when challenging, stand attention at a carry, when an officer passes.

Salute National and Regimental colors with present arms.

Saluting distance is thirty yards. Officers passing within saluting distance of a sentinel will be saluted by him.

All officers above the rank of Captain are saluted with *present arms*.

All officers below the rank of Major are saluted with the *sergeant's salute*.

The commanding officer and officer of the day, whatever their rank, are saluted with *present arms*.

Officers of the Navy and Marines, and officers of Volunteers and Militia in the service of the United States, are saluted according to their relative ranks.

The relative ranks of officers of the Navy and Army are as follows:—Admiral, General; Vice Admiral, Lieutenant-General; Rear-Admiral, Major-General; Commodore, Brigadier-General; Captain, Colonel; Commander, Lieutenant-Colonel; Lieutenant Commander, Major; Lieutenant, Captain; Master, First Lieutenant; Ensign, Second Lieutenant.

The President, Vice-President, members of the Cabinet, the Chief Justice, and Speaker of the House of Representatives, of the United States, Governors in their respective States or Territories, American or foreign envoys and ministers are saluted with a *present arms*.

Officers of a foreign service, visiting a post, are saluted according to their relative ranks.

Officers are saluted whether in uniform or not.

All funeral escorts are saluted with *present arms*. Arms should be presented as the escort approaches, and this position maintained until the remains have passed. The sentinel should then stand attention at a *carry* until the procession has passed.

Bodies of armed men are saluted according to the rank of the person commanding such body.

A body of armed men commanded by a commissioned officer, is saluted with *present arms*. The position of *present arms* is maintained until the whole body has passed, unless this be very large, in which case the *present* will be made as the officer in command approaches and maintained until he has passed. The sentinel then stands attention at a *carry* until the whole body has passed.

A body of armed men under the command of a non-commissioned officer, is not saluted. The sentinel will, however, stand attention facing outward, with arms at a *carry*, while such a body passes.

A body of men unarmed, or armed with side arms only, is not saluted. If a commissioned officer be in command he is saluted according to his rank.

If persons of different ranks pass together, the sentinel gives that salute only to which the senior is entitled.

To salute, a sentinel halts, facing in the direction in which he was walking, brings his piece to a *carry* as he halts, and then faces outward. This is done when the approaching officer arrives at a distance of thirty yards from the sentinel. If he approach along the post, the salute should be made when the officer arrives at a distance of six paces. If he pass in front, but not along the post, he is saluted when he passes. If he cross the post he is saluted when he crosses. If he pass in rear and within saluting distance, he is saluted as he passes.

The sentinel should remain in the position of the salute until it is returned, or until the person saluted has passed.

When any body of men, armed or unarmed, and commanded by a commissioned officer, passes him, a sentinel comes to the *carry* when such body is at a distance of thirty yards.

He comes to the *carry* when an armed party commanded by a non-commissioned officer is at a distance of fifteen yards.

If an officer or officers are standing on a sentinel's post, without making evident an intention of soon leaving, the sentinel will, as he walks, bring his piece to a carry, and when six yards from such officer or officers, will execute the *sergeant's salute*, keeping the left hand at the right shoulder until the person or persons entitled to a salute are passed. This, whatever the rank of the officers may be.

In a sentry box, a sentinel salutes all officers of whatever rank, by standing attention at an *order*, and, as the officer passes, bringing his left hand briskly to his piece as high as the right shoulder.

In wet weather, with no sentry boxes, the usual salutes are rendered.

Sentinels on post present arms to their own officers of the day only. Thus, if the new officer of the day cross the post of a sentinel of the old guard before such sentinel has been relieved, the sentinel will give the salute to which such officer's actual rank entitles him.

The sentinel at the guard house salutes in every way as prescribed above.

In addition to the salutes rendered by him, he will, between reveille and retreat, on the approach of any body of armed troops or a person entitled to compliment, call, "*Turn out the guard*," announcing who approaches. In time of peace, it is not customary to turn out the guard unless the body of armed men be as large or larger than the guard. The guard is not turned out for troops passing on ordinary garrison duty, such as drill, etc.

Though the guard be already formed, No. 1 will not fail to call, "*Turn out the guard*," on the approach of any person entitled to such compliment.

The following persons are entitled to compliment, viz: The President, Vice-President, Members of the Cabinet, the Chief Justice, Speaker of the House of Representatives of the United States; Governors in their respective States

or Territories ; all General officers of the Army ; General officers of a foreign service, visiting at a post ; Naval, Marine, Volunteer and Militia officers in the service of the United States, and holding the relative rank of a General officer ; American or foreign envoys or ministers ; commanding officer of the post or camp, and the officer of the day.

The guard is turned out for National or Regimental colors.

All guards will be turned out for officers entitled to the compliment as often as they pass, except personal guards of General officers, which turn out only to the General whose guards they are, and to officers his superior in rank.

The following examples illustrate the manner in which No. 1 turns out the guard : "*Turn out the guard. Commanding Officer.*" "*Turn out the guard. Governor of Territory.*" "*Turn out the guard. National colors of the United States.*" "*Turn out the guard. Body of armed men,*" etc. At the approach of the new guard at guard mounting, the old guard, if not already formed, should be turned out by No. 1, as in the last example.

Should the person named by No. 1 not desire the guard formed, he will touch his hat or say, "*Never mind the guard,*" whereupon No. 1 calls, "*Never mind the guard.*"

After having called, "*Turn out the guard,*" No. 1 must not, in any case, call, "*Never mind the guard,*" on the approach of a body of armed men.

If two or more persons entitled to compliment approach together, No. 1, in his call, mentions first only the senior. But if the senior decline the honor, No. 1. will then call, "*Turn out the guard,*" announcing the next in rank, and so on until all entitled to the compliment have been noticed, when if none desire the guard formed, the sentinel calls, "*Never mind the guard.*" If, however, one of the number desire the guard to be formed, No. 1 will not call for those to whom such person is senior, though they be of rank that would entitle them to compliment.

The same principle applies when persons entitled to compliment approach from opposite directions ; the senior

is first noticed ; if he decline the honor, the junior is noticed.

No 1 will come to the *present* and *carry* with his guard as the old or new guard passes his own at guard mounting, between *reveille* and *retreat*.*

ORDERS IN CASE OF FIRE OR DISTURBANCE.

In case of fire or disturbance, give the alarm. If the danger be great, discharge the piece before calling.

If a small fire break out in sight of a sentinel's post, he will at once, in every case, call the corporal of the guard. If the fire be on his post, he will try to extinguish it himself.

If the fire be great, he calls, "*Fire! No. (—),*" giving the number of his post.

If a small disturbance occur on or near his post, the sentinel will at once arrest the parties causing it, call the corporal of the guard, and turn them over to him.

If the disturbance be serious, the sentinel will call, "*Guard, No. (—),*" giving the number of post.

If the danger be great, in case of either fire or disturbance, the sentinel will discharge his piece before calling.

No. 1, in case of fire or disturbance on his post, calls, "*Corporal of the guard, No. 1,*" and notifies him of the case.

NIGHT ORDERS.*

At night exercise the greatest vigilance. Between retreat (or the hour appointed by the commanding officer), and broad daylight, challenge all parties seen on or near his post, and allow no unauthorized persons to pass.

FIRST. ORDERS FOR ALL SENTINELS EXCEPT THE ONE AT THE GUARD HOUSE.

Between retreat (or the hour appointed by the com-

* The following orders imply that sentinels have instructions to pass persons with the countersign. This is always the case, unless otherwise ordered by the commanding officer, who, if the necessity or expediency exist, may require all persons to be passed by an officer or non-commissioned officer of the guard only.

manding officer) and broad daylight, if a sentinel see any party on or near his post, he advances rapidly along his post toward such party, and when within about thirty yards takes the position of charge bayonets, or if armed with the carbine, the *third position of load*, and challenges sharply, "*Who comes there?*" "*Who stands there?*" or "*Who goes there?*" as the case may require.

Until duly recognized, by countersign or otherwise, the sentinel will allow no one to approach nearer than within reach of his bayonet—a distance of about eight feet.

After challenging, the sentinel will be governed by the answer he receives. A general rule is that the sentinel must suffer one only of any party to approach him for the purpose of giving the countersign, or of being duly recognized if no countersign be used. When this has been done the whole party is advanced, *i. e.*, suffered by the sentinel to pass.

If he challenge, and the answer be "*Friends*," the sentinel cries: "*Halt, friends. Advance one with the countersign.*" The countersign being correctly given, the sentinel says: "*The countersign is right. Advance, friends.*"

If the answer be, "*Friends with the parole*," the sentinel cries: "*Halt, friends with the parole. Advance one with the countersign.*" Then: "*The countersign is right. Advance, friends with the parole.*"

If the answer be "*Patrol*," the sentinel cries: "*Halt, patrol. Advance non commissioned officer, with the countersign.*" Then: "*The countersign is right. Advance patrol.*"

If the answer be "*Relief*," the sentinel cries: "*Halt, relief. Advance corporal with the countersign.*" Then: "*The countersign is right. Advance relief.*"

If the answer be "*Grand rounds*," the sentinel cries: "*Halt, grand rounds. Advance sergeant with the countersign.*" Then: "*The countersign is right. Advance rounds.*" It is to be noted that the word *grand* is omitted when the grand rounds as a whole are advanced. This is the only exception to the general rule that in *advancing* any challenged party, the exact answer to the challenge is repeated by the sentinel.

If the answer to the challenge indicate two or more persons in the same party of different rank, the junior is advanced to give the countersign. Thus if the answer to the challenge be, "*Officer of the day, and officer of the guard.*" The sentinel cries: "*Halt, officer of the day. Advance officer of the guard, with the countersign.*" Then, "*The countersign is right. Advance, officer of the day, and officer of the guard.*"

If the answer to the sentinel's challenge indicate that one person alone is approaching, the procedure is the same in all cases. A single instance will illustrate: "*Who comes there?*" "*Friend with the parole.*" "*Advance, friend with the parole with the countersign.*" "*The countersign is right. Advance, friend with the parole.*"

In case a mounted party be challenged, before advancing it, the sentinel will cause it to dismount, crying, "*Halt. Dismount,*" after receiving an answer to his challenge. He then advances one with the countersign, according to the foregoing rules:

If two or more separate parties approach a sentinel's post from different directions and at the same time, all such parties are separately challenged and halted in turn. The senior is first advanced, in accordance with the foregoing rules. If the last party challenged be the senior, if he be alone, and if there be no other party on or near his post yet remaining to be challenged, the sentinel will advance such senior without halting him. The senior, if competent to give orders to the sentinel, may direct the sentinel to advance any or all of the other parties. Without such direction, the sentinel will not advance any of them until the senior has left his post. He will then advance the senior only of the remaining parties, and when he directs or has left the post, the others are similarly advanced. If the manner of advancing two or more parties to receive the countersign be the same, the sentinel will repeat the answer to his challenge, and then say, "*Advance (So and So) with the countersign.*" Thus, if "*Friends,*" and "*Friends with the parole,*" should approach, after halting both, the sentinel would say, "*Friends with the parole, advance one with the*

countersign," etc. If two parties give precisely the same answer, he will designate which is to approach first.

If a party be already advanced and on his post, the sentinel will challenge any other party who may approach ; if the party challenged be senior to the one already on his post, the sentinel will advance such party at once ; if junior, he will cause them to halt, and advance them as in the foregoing case.

The following order of rank will govern a sentinel in advancing different parties approaching his post at night : Commanding officer, grand rounds, friend or friends with the parole, officer of the day, officer of the guard, patrols, friend or friends with the countersign, non-commissioned officers of the guard in the order of rank, friends, relief.

The sentinel will never allow himself to be surprised, or permit two parties to advance upon him at the same time.

In all cases the sentinel must satisfy himself beyond reasonable doubt, that the parties are what they represent themselves to be, and have a right to pass. If he be not so satisfied he must cause them to stand, and call the corporal of the guard. So, likewise, if he have no authority to pass persons with the countersign, or when the party challenged has not the countersign, or gives an incorrect one.

After challenging and duly recognizing an officer, the sentinel, unless spoken to, stands attention at a *carry* until such officer has passed him.

A sentinel will not divulge the countersign to any one excepting the sentinel who relieves him, or to a person from whom he properly receives orders, on such person's order. (See note on page 226.)

If no countersign be used, the rules for challenging are the same. The rules for advancing parties are modified only as follows: Instead of saying, "*Advance (So and So) with the countersign*," the sentinel will say, "*Advance (So and So) to be recognized*." Upon recognition, the parties are advanced conformably to the rules above given, simply omitting the words, "*The countersign is right*."

Should sentinels be required to call off the hours or half

hours of the night, they will call successively, in the numerical order of their posts, proceeding from the guard house, each one giving the number of his post, the time of the night, then reporting, "*All's well.*" Thus: "*No. 2, eleven o'clock. All's well.*" This call should be made in a loud and clear tone of voice, and the number of the post and the hour distinctly stated.

In case any sentinel fails to call, the one next preceding him, after waiting a reasonable length of time, will call the corporal of the guard, and inform him of the fact.

SECOND. FOR THE SENTINEL AT THE GUARD HOUSE.

The sentinel at the guard house, between retreat (or the hour appointed by the commanding officer) and broad daylight, will challenge all parties approaching the guard house, in the manner above prescribed for other sentinels, but, unlike them, he advances no one.

After receiving an answer to his challenge, No. 1 calls, "*Halt. Corporal of the guard, (So and So),*" repeating the answer to his challenge. He does not, in this case, repeat the number of his post.

Similarly in every case, excepting only when the answer to his challenge be "*Grand rounds,*" or "*Armed party.*" In the first case No. 1 calls, "*Halt, grand rounds. Turn out the guard. Grand rounds.*" In the second case, he calls, "*Halt. Turn out the guard. Armed party.*" The guard will be likewise turned out, if the answer to his challenge indicate, of itself, that the approaching party is armed. The guard is not turned out for a returning relief of the guard. If the party be mounted, No. 1 will call, "*Halt. Dismount. Turn out the guard. Armed party.*"

No. 1 remains in the position assumed in challenging, until the countersign be given to, or the party be duly recognized by, a non-commissioned officer of the guard. If the party be entitled to a salute, No. 1 will then *stand attention* at a *carry*. If not, he will resume walking his post.

In calling the hours of the night, No. 1 will, at the direction of a non-commissioned officer of the guard, call,

"*No. 1, (Such) o'clock.*" After the call has passed around the chain of sentinels he will call, "*No. 1. All's well.*"

Between retreat and the hour appointed for challenging to begin, and between broad daylight and reveille, No. 1 calls, "*Corporal of the guard. No. 1,*" on the approach of any person entitled to compliment.

Special Orders.

These orders specify the particular duties to be performed by a sentinel on post, in addition to his general duties as described above. They vary according to the different posts, the property to be guarded, etc.

The limits and extent of his post will constitute one of the special orders of every sentinel on post.

Color Line and Sentinels.

When not in use, the National and Regimental colors are habitually kept at the Colonel's headquarters, or in the stacks along the color front.

The color front is that side of the camp which is nearest the enemy. The color line is the straight line along the color front, in advance of and parallel to the tents occupied by the troops, and extending from flank to flank.

When not in use, arms may be stacked along the color line. It is usual to form stacks after guard mounting in the morning.

Stacks are regularly broken at police call or about 4 o'clock p. m., or at once in case of storm.

If the body of troops encamped be a regiment, three sentinels are placed on the color line to guard the colors and stacks. If less than a regiment, a less number of sentinels may be posted.

In camps for the instruction of troops, the proper number for sentinels for the color line may be selected from the guard by the adjutant at guard mounting. Such sentinels are selected in order of merit as regards neatness of person and clothing and condition of arms and accoutrements. A private wishing to compete brings his piece to *inspection arms* as the adjutant passes. Should competition be close, the adjutant may proceed to the guard tent to

more thoroughly inspect competitors. After the new guard has been brought to an *order* the adjutant may direct such competitors, as he may deem necessary, to fall out and form in line a few paces from the right flank of the new guard. He will then more closely inspect them, their arms and accoutrements, and announce his decision. Cases of doubt will be decided by testing the proficiency of the competitors in the manual of arms, with, and without the numbers.

They are named in the order in which selected, *first*, *second* and *third color sentinels*.

Color sentinels so selected are on post only so long as the stacks are formed. Their places are taken at night by sentinels from the flanks.

When stacks are broken, they may be permitted to return to their respective companies. They are required to report in person to the officer of the guard at reveille and tattoo. They will fall in with the guard, under arms, at retreat and at guard mounting.

Such sentinels are not placed on the regular reliefs, nor are their posts numbered unless more than one are posted at the same time. In calling for the corporal of the guard, they call, "*Corporal of the guard, color line.*" If more than one be posted, they add the number of their posts, thus: "*Corporal of the guard, color line No. 2.*"

The first color sentinel is permitted to make a time table for color sentinels, which he will submit to the officer of the guard, who enters the same in his report. The time of walking post on the color line is equally divided among the color sentinels.

A color sentinel on post is subject to, and will observe all the general orders prescribed for sentinels on other posts.

Patrols and Rounds.

A patrol is a small detachment of two or more men detailed from a guard to observe and obtain information of the enemy, or to perform some special service connected with the guard duty of an army, a post or a camp.

A patrol is usually commanded by a non-commissioned

officer. If the service be important, it is commanded by a commissioned officer.

Patrols are detailed from a guard by its commander, who will instruct the commander of the patrol in regard to the duties required of it.

If the patrol be required to go beyond the chain of sentinels, the officer or non-commissioned officer in command should be furnished with the countersign, and the outposts and sentinels warned.

If challenged by a sentinel, the patrol is halted by its commander, and the non-commissioned officer accompanying it advances and gives the countersign.

By making *rounds* is meant the visiting of all the sentinels of a guard for the purpose of ascertaining their vigilance and knowledge of their duties.

Rounds may be made by any General officer, by any person from whom the commander of the guard properly receives orders, by any officer or non-commissioned officer of the guard.

By *grand rounds* is meant the visiting, by any officer of competent authority, of the guards or sentinels of a command, for the purpose of ascertaining the manner in which the duties of such guards or sentinels are performed, of conveying orders to outposts, or of obtaining information of the enemy.

Grand rounds are made when there are two or more guards in the same general command, as when two or more regiments are united in a brigade, each regiment having its own proper guard.

Grand rounds may be made by any General officer, or by any person from whom the commanders of guards properly receive orders.

An officer making the grand rounds is usually accompanied by an escort consisting of a non-commissioned officer, a sergeant, if possible, and two privates. This escort is furnished from a guard by its commander.

In case of danger, the escort of an officer making grand rounds may be increased to meet the necessities of the case.

The officer making the rounds and his escort are collectively termed the *Grand Rounds*.

An officer making rounds or grand rounds, without an escort, will advance himself, when challenged by a sentinel, as "*Friend with the parole*," or "*countersign*," or will announce his rank.

An officer or non-commissioned officer making *rounds*, may, if necessary, take an escort. When challenged by a sentinel, the answer, "*Friend (or friends), with the countersign*," will be made.

In case grand rounds are made with an escort, the officer of such rounds will instruct the sergeant of his escort as to his destination. The escort forms in line, the sergeant in the centre. At the command of the sergeant the escort moves off, the officer following, two yards in its rear.

If challenged by a sentinel, the sergeant will answer, "*Grand Rounds*." At the order to halt by the sentinel, the sergeant will command:

1. *Escort*, 2. *HALT*,

and, on the order of the sentinel, will advance alone to give the countersign. At the call of the sentinel, "*Advance rounds*," the private on the right of the escort will take a side step to the right, the one on the left a side step to the left. Both will then face inward, toward each other, with arms at a *carry*.

The officer then passes between them, and proceeds to question the sentinel as to his orders and duties. After the officer has passed, the two privates again face to the front, and each, by a side step to the left and right respectively, resumes his former position. The sergeant then takes his place between the two privates. The officer, having sufficiently questioned the sentinel, orders his escort to move on. As they pass him, he takes his place in rear and follows as before.

When challenged by the sentinel before a guard, the sergeant will answer, "*Grand rounds*."

After the guard has been formed, the challenge is repeated. The sergeant will again answer, "*Grand rounds*," and at the call, "*Advance, sergeant, with the countersign*,"

he will advance alone, give the countersign, and return to the escort, taking post on the right of the right private, until the officer of the rounds has passed. The two soldiers of the escort, when the sergeant advances, face inward as before. As soon as the commander of the guard calls, "*Advance rounds*," the officer of the rounds advances alone to the commander of the guard, giving the parole, if the latter require it.

He will then examine the guard, order back his escort, and, taking a new one, will proceed in the same manner to other guards.

The sergeant of the old escort will march it back to the guard to which it belongs, reporting its return to the commander of his guard.

Countersigns and Paroles.

A *countersign* is a watchword issued daily from the headquarters of a command, to enable guards and sentinels to distinguish persons who may be authorized to pass at night.

The *parole* is a word used as a check on the countersign, in order to obtain more accurate distinction of persons.

The *countersign* is usually the name of a battle; the *parole* that of a General or other distinguished person.

When the parole and countersign cannot be communicated daily to a post or detachment, which ought to use the same as the main body, a series of words may be sent for some days in advance.

If the countersign is lost, or if a member of the guard desert with it, the commander on the spot will substitute another for it, and report the case at once to the proper superior, that immediate notice may be given to headquarters.

The countersign is given to such persons as are authorized to pass during the night, and to officers, non-commissioned officers and sentinels of the guards. Sentinels, however, have no right to use the countersign themselves. It is given to them for the purpose only of enabling them to distinguish persons while on duty as sentinels.

The parole is given to such persons only as have a right to make grand rounds, to commissioned officers of the

guard, and to non-commissioned officers in command of guards. Interior guards receive the countersign only when ordered by the commanding officer.

No person shall make known the countersign or parole to any person not entitled to receive them.*

The use of either countersign or parole, or both, in a separate command, may be dispensed with, if the commanding officer deem their use unnecessary.

In addition to the countersign, use may be made of preconcerted signals, such as striking the rifle with the hand, or striking the hands together a certain number of times as agreed upon. Such signals may be used by the guards throughout the same general command, or by those guards only which occupy exposed points.

They are made before the countersign is given, and must not be made known to any person not authorized to know the countersign. Their use is intended to prevent the surprise of a sentinel.

In the day time, signals may be used by sentinels to communicate with the guard or with each other. They may be made by raising a cap or a handkerchief in preconcerted manner.

The parole, or countersign, or both, are sent by the adjutant-general, or adjutant, to every officer authorized to use them.

They are usually sent in an order of the following form:

FORT ———, M. T.
June 1st, 1884.

Orders:

Countersign to-night:

.

Parole:

.

By order of

.

(—) Lieut., Ad'jt (—) Inf., and Post.

* Art. War, 44.—Any person belonging to the Armies of the United States, who makes known the watchword to any person not entitled to receive it, according to the rules and discipline of war, or presumes to give a parole or watchword different from that which he received, shall suffer death, or such other punishment as a court martial may direct.

Reveille and Retreat Gun.

At posts supplied with proper ordnance and ammunition, a morning and evening gun will, in time of peace, be fired daily at reveille and retreat. Guns of small calibre, and inferior blank cartridges, or powder, when on hand, will be used for this purpose.

The reveille and retreat gun is usually fired by a detachment of the guard, consisting of a non-commissioned officer and two privates detailed for the purpose.

Grand Guards and Outposts.

Grand Guards are the advanced posts of an army or a position. They cover the approaches of a position, prevent surprises by the enemy, and gather information regarding him. In time of peace they are of no more practical importance than instruction to the troops, but in the presence of an enemy the safety of the army, and its success, depends to a great extent upon the thorough manner all duties connected with Grand Guards are performed. As the name indicates, Grand Guards are taken from more than one regiment or organization. The system upon which Grand Guard duty is performed is represented by the sketch on page 228.

The line *a, a* is the Grand Guard. One-half rests for six hours, while the other half, with arms stacked, is awake. The line *b, b* are the picket guards, relieved from the Grand Guard every eight hours. Four hours of the eight, one-half of the picket rests, while the other half, with arms stacked, is awake. The line *c, c* are the outposts, consisting of either nine or eighteen men each, and two non-commissioned officers. They are relieved from the pickets every two hours. The fourth line *d, d* are the videttes or sentinels, and are relieved every hour from the outposts.

The number, strength, and position of Grand Guards is regulated by the commanders of brigades; or, if in detached corps, by the commanding officer. When the cavalry is strong, the Grand Guard is made up of both Infantry and Cavalry, the former furnishing the sentinels when the cavalry is weak; but a few cavalry soldiers are used, and they only to carry intelligence of the enemy. The

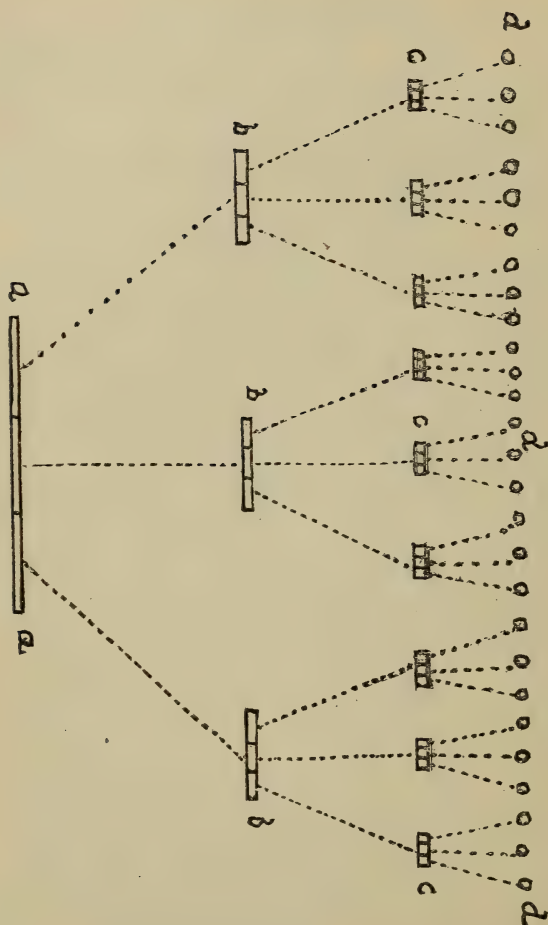


FIG. I.

strength of a Grand Guard depends upon the nature of the country, the position of the enemy, and the inhabitants of the country. It is generally commanded by a captain. The Grand Guards are under the direction of the Field Officer of the Day of each brigade, who are in turn directly supervised by the Generals of Divisions or Brigades. If necessary, Captains may be added to the Roster of Lieut. Colonels and Majors for Field Officer of the Day.

Grand Guard Mounting.

At the first call for guard mounting sounded from headquarters, and repeated in each regimental camp, officers and men previously detailed are assembled on the regimental parade grounds by their respective adjutants, and after being verified and inspected, are marched by the adjutants or senior officer of each detachment, to the general parade.

The officer commanding the detachment there forms it in rear open order, places himself two yards in front of the centre, and saluting the Adjutant General or staff officer mounting the Grand Guard, reports as follows: "Sir, I report (so many) officers, non-commissioned officers, and men for (such and such) guards." The guides of the detachment take their places in the line of file-closers, when the detachment is first halted. In case the officer marching the detachment is senior to the officer mounting the guard, (who may be a staff officer detailed for that purpose by the Adjutant General) he does not salute first, but simply makes his report, and returns the salute of the latter.

When all the details are reported, the staff officer counts the files, verifies the details by reference to written orders, and gives the order to "count fours," and then divides the guard into two or more platoons, and dresses it to the right. Should more than the camp guards be mounted, they are established in the following order by the staff officer: 1st, Police Guard; 2d, Grand or Outer Guard; 3d, Camp Guard. The non-commissioned officers are two yards in rear of the guard. After dress-

ing, the staff officer commands "Front," and then proceeds to twelve yards in front of the centre of the detail and facing the guard commands: "1. Officers and non-commissioned officers, to the front and centre. 2. *March.*"

If there is more than one guard formed, the officers and non-commissioned officers pass through the intervals, officers first, and range themselves in the front and centre, the officers in one rank nine yards in front, and the non-commissioned officers three yards in their rear. All take post, according to rank, from right to left. If there is but one guard formed, they pass around the flank of the guard nearest them.

The staff officer then moves to the right of the line of officers, and passing down their front, designates them as follows: "Senior Officer of Police Guard," "Senior Officer of Picket Guard," "Junior Officer of Police Guard," etc. If the guard be divided into but two or three platoons, the designations, "Chief of First Platoon," "Right Guide of Second Platoon," etc., is sufficient. He also designates the guards the non-commissioned officers belong to in same manner, and, returning to his post, commands: "1. Officers and non-commissioned officers, inspect your guards; 2. *March.*" All face about and take the places designated in Tactics at Inspection of Arms, the seniors of each guard on arriving at their posts giving the commands: "Order, *Arms*; Inspection, *Arms.*"

They then inspect them, after which they take their places in front of their respective guards, as prescribed in Tactics. During inspection the band plays; the staff officer sheathes his sword, and observes the general military appearance of the details, and, as far as possible, satisfies himself that all are in a proper condition to perform their duty. Should any one be reported to him by the officers inspecting as not being in a proper condition, he directs the adjutant of that detail to replace him immediately by one in proper condition. The inspection completed, all take their posts, the guard is brought to a parade rest, the

band sounds off, the ranks are then closed, and arms presented to the Field Officer of the Day, the guard passed in review, and then brought to the left into line by the staff officer, and halted. The Field Officer of the Day then sends the guard by detachments to its various posts.

Extracts from Army Regulations Concerning Grand Guards.

Par. 1123. Grand guards usually mount at the same time as the other guards, but may mount before daybreak if the General of Brigade thinks it necessary to double the outposts at that time. In this case they assemble and march without noise, and during their march throw out scouts—a precaution which should always be taken in the first posting of a grand guard. The doubling of guards weakens the corps and fatigues the men, and should seldom be resorted to, never when preparing to march or fight.

1124. A grand guard is conducted to its post, in the first instance, by the field officer of the day, guided by a Staff officer who accompanied the General in his reconnoissance. After the post has been established, the commander sends to the field officer, when necessary, a soldier of the guard to guide the relieving guard to the post. He also sends to him in the evening a Corporal or trusty man of the guard for the note containing the parole and countersign, which he communicates before dark to the detached posts. He will not suffer his guard to be relieved except by a guard of the brigade, or by special orders.

1125. If there be no pass to be watched or defended, the grand guards are placed near the centre of the ground they are to cover, in a sheltered, and, if possible, high position, the better to conceal their strength and observe the enemy; they ought not to be placed near the edge of a wood. When, during the day, they are placed very near or in sight of the enemy, they fall back at night on posts selected further to the rear.

1126. Grand guards are chiefly to watch the enemy in front; their flanks are protected by each other, and the

camp must furnish posts to protect their rear and secure their retreat.

1127. In broken or mountainous countries, and particularly if the inhabitants are ill-disposed, intermediate posts must be established when it is necessary to post the grand guard at a distance from the camp.

1128. The General of division, if he thinks proper, changes the stations and orders of these guards, and establishes posts to connect the brigades or protect the exterior flanks.

1129. The commander of a grand guard receives detailed instructions from the General and field officer of the day of the brigade, and instructs the commanders of the small posts as to their duties, and the arrangements for defense or retreat. The commanders of grand guards may, in urgent cases, change the position of the small posts. If the small posts are to change their positions at night, they wait until the grand guard is in position and darkness hides their movements from the enemy; then march silently and rapidly under the charge of an officer.

1130. Staff officers, sent from division headquarters to inspect the posts of grand guards, give them orders only in urgent cases, and in the absence of the field officer of the day of the brigade.

1131. The following are standing instructions to grand guards, beside the special orders which may be given in each case: To inform the nearest posts and the field officer of the day, or the General of brigade, of the movements of the enemy, and of the attacks they receive or apprehend; to examine every person passing near the post, particularly those coming from without; to arrest suspicious persons, and all soldiers and camp-followers who try to pass out without permission, and to send to the General, unless otherwise directed, all country people who come in.

1132. If a body of troops attempt to enter the camp at night, unless their arrival has been announced, or the commander is known to, or is the bearer of a written order to the commander of the grand guard, he stops them, and sends the commander under escort to the field officer of the day, and warns the posts near him.

1133. Bearers of flags are not permitted to pass the outer chain of sentinels; their faces are turned from the post or army; if necessary, their eyes are bandaged; a non-commissioned officer stays with them to prevent indiscretion of the sentinels.

1134. The commandant of the grand guard receipts for dispatches from the enemy, and sends them to the field officer of the day or General of brigade, and dismisses the bearer; but if he has discovered what ought to be concealed from the enemy, he is detained as long as necessary.

1135. Deserters are disarmed at the advanced posts, and sent to the commander of the grand guard, who gets from them all the information he can. If many come at night, they are received *cautiously, a few at a time*. They are sent in the morning to the field officer of the day, or to the nearest post or camp, to be conducted to the General of the brigade. All suspected persons are searched by the commanders of the posts.

1136. Grand guards are often charged with the care and working of telegraphic signals.

1137. After a grand guard is posted, the first care of the commander and of the field officer of the day is to get news of the enemy; then to reconnoitre his position, and the roads, bridges, fords, and defiles. This reconnoissance determines the force and position of the small posts and their sentinels day and night. These posts, according to their importance, are commanded by officers or non-commissioned officers; the Cavalry posts may be relieved every four or eight hours.

1138. In detached corps, small posts of picked men are at night sent forward on the roads by which the enemy may attack or turn the position. They watch the forks of the road, keep silence, conceal themselves, light no fires, and often change place. They announce the approach of the enemy by signals agreed upon, and retreat, by routes examined during the day, to places selected, and rejoin the guard at daybreak.

1139. The commandants of grand guards visit the sentinels often; change their positions when necessary; make

them repeat their orders; teach them under what circumstances and at what signals to retire, and particularly not to fall back directly on their guard if pursued, but to lead the enemy in a circuit.

1140. The fires of grand guards should be hidden by some sort of screen. To deceive the enemy, fires are sometimes made on grounds not occupied. Fires are not permitted at small posts liable to surprise.

1141. The horses of Cavalry guards are watered or fed by detachments; while some are feeding the rest are ready to mount.

1142. Advanced posts will not take arms for inspection or ceremony when it would expose them to the view of the enemy.

1143. The sentinels and videttes are placed on points from which they can see furthest, taking care not to break their connection with each other or with their posts. They are concealed from the enemy as much as possible by walls, or trees, or elevated ground. It is generally even of more advantage not to be seen than to see far. They should not be placed near covers, where the enemy may capture them.

1144. If the post of a sentinel must be where he cannot communicate with the guard, a Corporal and three men are detached for it, or the sentinels are doubled, that one may communicate with the guard. During the day the communication may be made by signals, such as raising a cap or handkerchief. At night sentinels are placed on low ground, the better to see objects against the sky.

1145. A sentinel should always be ready to fire; videttes carry their pistols or carbines in their hands. A sentinel must be sure of the presence of an enemy before he fires; once satisfied of that, he must fire, though all defense on his part be useless, as the safety of the post may depend on the alarm thus given. Sentinels fire on all persons deserting to the enemy.

1146. At night, half the men of the grand guard off post watch under arms, while the rest lie down, arms by their side. The horses are always bridled; the horsemen hold the reins, and must not sleep.

1147. All out-guards stand to arms at night on the approach of patrols, rounds, or other parties; the sentinel over the arms has orders to call them out.

1148. To lessen the duty of rounds, and keep more men on the alert at night, sentinels are relieved every hour. To prevent sentinels from being surprised, it is sometimes well to precede the countersign by concerted signals, such as striking the rifle with the hand, striking the hands together, etc.

1149. With raw troops, or when the light troops of the enemy are numerous or active, and when the country is broken or wooded, the night stormy or dark, sentinels should be doubled. In this case, while one watches, the other, called a flying sentinel, moves about, examining the paths and hollows.

1150. On the approach of any one at night, the sentinel orders, "*Halt.*" If the order is not obeyed after once repeated, he fires. If obeyed, he calls, "*Who goes there?*" If answered, "*Rounds*" or "*Patrol,*" he says, "*Stand; advance one with the countersign.*" If more than one advance at the same time, or the person who advances fails to give the countersign or signal agreed on, the sentinel fires, and falls back on his guard. The sentinel over the arms, as soon as his hail is answered, turns out the guard, and the Corporal goes to reconnoitre. When it is desirable to hide the position of the sentinel from the enemy, the hail is replaced by signals; the sentinel gives the signal, and those approaching the counter signal.

1151. When a grand guard of Cavalry is so placed as not to be liable to a sudden attack from the enemy, the General may permit the horses to be fed during the night, unbridling for this purpose a few at a time—the horsemen being vigilant to prevent them from escaping.

1152. The commander of a grand guard regulates the numbers, the hours, and the march of patrols and rounds, according to the strength of his troop and the necessity for precaution; and, accompanied by those who are to command the patrols and rounds during the night, he reconnoitres all the routes they are to follow.

1153. Patrols and rounds march slowly, in silence, and with great precaution, and halt frequently to listen and examine the ground. The rounds consist of an officer or non-commissioned officer and two or three men.

1154. Cavalry patrols should examine the country to a greater distance than Infantry, and report to the Infantry guard everything they observe. The morning patrols and scouts do not return until broad daylight; and when they return the night sentinels are withdrawn, and the posts for the day resumed.

1155. When patrols are sent beyond the advanced posts, the posts and sentinels should be warned.

1156. On their return, commanders of patrols report in regard to the ground and everything they have observed of the movements of the enemy, or of his posts, and the commandant of the grand guard reports to the field officer of the day.

Beside grand guard duty there is another equally onerous guard duty. This is guard duty in laying siege to a place, and is called Trench duty.

1163. The field officer of the trenches is charged with all the details relative to the assembling of the guards and the workmen. He distributes the guards on the different points of the attack agreeably to the orders of the General of the trenches, and forms the detachments of workmen for the Engineers and Artillery; that he may be prepared for this distribution, he receives every day from the Adjutant General a statement of the details for the next day.

1164. On the arrival of the General of the trenches, the field officer of the trenches gives him all the information necessary to enable him to station the troops, attends him in his visit to the trenches, and takes his orders on the changes to be made in the position of the troops. The execution is intrusted to the commandants of the troops.

1167. The Infantry has two kinds of siege service—the guard of the trenches and the work of the trenches.

1168. The guards of the trenches mount every day by battalions, in such order of detail that all the troops may take an equal share, and no part of the line be left too

weak. If only one battalion be required, each division furnishes it alternately; if two, each division gives one; if three, one division furnishes two, the other one, alternately. The two battalions of the same division are not taken from the same brigade.

1170. The battalions for guard are detailed at least twelve hours in advance; they furnish no other details during this tour. If the whole regiment be called out, it leaves a sufficient police guard in camp.

1171. Twenty-four hours, or twelve at least, before mounting guard in the trenches, the battalions detailed for guard do not furnish workmen; and the companies of those battalions whose tour it would have been to work in the trenches do not go there for twenty-four hours after guard, if possible, or at the least twelve.

1173. The battalions first for detail for guard of the trenches, and the companies first for detail for work in the trenches, furnish no other details, and are held on picket, ready to march at the call of the field officer of the trenches.

1175. Guards and workmen going to the trenches march without beat of drum or music.

1180. The guards always enter the trenches with arms *trailed*, and the workmen also, unless they carry materials or tools, when the arms are in the sling.

1181. The guards and detachments of workmen send a Corporal to the openings of the trenches to guide the relief. They march out of the trenches by the flank, with *trailed* arms.

1182. Sand-bags, forming loop-holes, are placed at intervals on the parapet to cover the sentinels; they are more numerous than the sentinels, so that the enemy may not know where the sentinels are placed.

1184. No honors are paid in the trenches. When the General commanding the siege visits them, the guards place themselves in rear of the banquette, and rest on their arms. The colors are never carried to the trenches unless the whole regiment marches to repulse a sortie or make an assault. Even in this case they are not displayed until the General commanding the siege gives a formal order.

1187. The soldiers sent to the trenches go with their cartridge-boxes filled. Cartridges, when needed, are sent to the trenches on the requisition of commanders of battalions, approved by the General of the trenches.

1188. In the case of a sortie, the guards move rapidly to the places that have been designated by the General of the trenches, and which afford the best defense for the head of the works, the batteries, the communications, or the flanks, or best enable them to take the sortie itself in flank or reverse. Having lined the banquette to fire on the enemy, the troops form on the reverse of the trench to receive him. The workmen take arms, retain their positions, or retire with their tools, as ordered. The officers commanding the detachments of workmen see that their movements are made promptly and in good order, so as to avoid all confusion in the communications.

1189. The troops that advance beyond the trenches to repulse the sortie must not follow in pursuit. The General takes care that they return to the trenches before the retreat of the sortie allows the artillery of the place to open on them. When the workmen return, the officers and non-commissioned officers of the detachments call the roll without interrupting the work, which is immediately resumed.

1190. When it is necessary to dismount Cavalry and send them to the trenches, they should be employed as near their camp as possible, and posted between the detachments of Infantry.

1191. Men belonging to the Cavalry may, in assaults, be employed in carrying fascines and other materials to fill ditches and make passages.

Instructions for Outposts, Pickets, and Sentinels.

When a grand guard is relieved by a new detail, the pickets are first relieved by companies, platoons or sections, and from the new pickets squads are sent to relieve the outposts. The sentinels are then relieved from the outposts. The relieving must be superintended by an officer. The old guard then returns to quarters as follows:

The sentinels return to the outposts; these then return to the pickets, and when these are complete they return to the grand guard.

The officer commanding the grand guard is stationed with it, but visits all the pickets at least once every six hours. The officers of the picket guards visit at least each of their outposts once each time posted. Non-commissioned officers command the outposts, and visit the sentinels in their front. When a sentinel is attacked, the sentinels to his right and left close in on him at once, and all retire together. The outposts move to the support of the sentinels, and the pickets move forward to the outposts. Should the attack be strong, so that the whole grand guard is obliged to retire, each line falls back on the one in its rear, fighting.

Outposts and sentinels never sleep at their posts. Sentinels are posted every hour. They constantly patrol their posts (unless otherwise instructed), so that they can keep up constant communication with the sentinels to their right and left, and so that nothing occurring near their posts will escape their vigilance.

As the chief object of outposts is to secure the safety of the camp, and discover all that can be learned of the enemy, the utmost vigilance and care of all details, great and small, must be observed. Officers in time of war should familiarize themselves with the Army Regulations, and some standard work on the subject.

Guards for the Trenches.

POLICE GUARDS.

A. R.—1095. In each regiment a police guard is detailed every day, consisting of two Sergeants, three Corporals, two drummers, and men enough to furnish the required sentinels and patrols. The men are taken from all the companies—from each in proportion to its strength. The guard is commanded by a Lieutenant, under the supervision of a Captain, as regimental officer of the day. It furnishes ten sentinels at the camp—one over the arms of the guard; one at the Colonel's tent; three on the color front,

one of them over the colors; three fifty paces in rear of the field officers' tents; and one on each flank, between it and the next regiment. If it is a flank regiment, one more sentinel is posted on the outer flank.

1096. An advanced post is detached from the police guard, composed of a Sergeant, a Corporal, a drummer, and nine men, to furnish sentinels and the guard over the prisoners. The men are the first of the guard roster from each company. The men of the advanced post must not leave it under any pretext. Their meals are sent to the post. The advanced post furnishes three sentinels—two a few paces in front of the post, opposite the right and left wing of the regiment, posted so as to see as far as possible to the front, and one over the arms.

1197. In the Cavalry, dismounted men are employed in preference on the police guard. The mounted men on guard are sent in succession, a part at a time, to groom their horses. The advanced post is always formed of mounted men.

1098. In each company a Corporal has charge of the stable guard. His tour begins at retreat, and ends at morning stable-call. The stable guard is large enough to relieve the men on post every two hours. They sleep in their tents, and are called by the corporal when wanted. At retreat the Corporal closes the streets of the camp with cords, or uses other precautions to prevent the escape of loose horses.

1099. The police guard and the advance post pay the same honors as other guards. They take arms when an armed body approaches.

1100. The sentinel over the colors has orders not to permit them to be moved except in presence of an escort; to let no one touch them but the color-bearer, or the Sergeant of the police guard when he is accompanied by two armed men.

1101. The sentinels on the color front permit no soldier to take arms from the stacks, except by order of some officer, or a non-commissioned officer of the guard. The sentinel at the Colonel's tent has orders to warn him, day or night, of any unusual movement in or about the camp

1102. The sentinels on the front, flanks, and rear, see that no soldier leaves camp with horse or arms unless conducted by a non-commissioned officer. They prevent non-commissioned officers and soldiers from passing out at night, except to go to the sinks, and then mark if they return. They arrest, at any time, suspicious persons prowling about the camp, and at night every one who attempts to enter, even the soldiers of other corps. Arrested persons are sent to the officer of the guard, and by him, if necessary, to the officer of the day.

1103. The sentinels on the front of the advanced post have orders to permit neither non-commissioned officers nor soldiers to pass the line without reporting at the advanced post; to warn the advanced post of the approach of any armed body, and to arrest all suspicious persons. The Sergeant sends persons so arrested to the officer of the guard, and warns him of the approach of any armed body.

1104. The sentinel over the arms at the advanced post guards the prisoners, and suffers no one to converse with them without permission. They are only permitted to go to the sinks one at a time, and under a sentinel.

1105. If any one is to be passed out of camp at night, the officer of the guard sends him under escort to the advanced post, and the Sergeant of the post has him passed over the chain.

1106. At retreat, the Sergeant of the police guard, accompanied by two armed soldiers, folds the colors and lays them on the trestle in rear of the arms. He sees that the trader's stores are then closed, and that the men leave them; also that the kitchen fires are put out at the appointed hour.

1107. The officer of the day satisfies himself frequently during the night of the vigilance of the police guard and advanced posts. He prescribes patrols and rounds to be made by the officer and non-commissioned officers of the guard. The officer of the guard orders them when he thinks necessary. He visits the sentinels frequently.

1108. At reveille, the Sergeant replants the colors in place. At retreat and reveille the advanced post takes

arms; the Sergeant makes his report to the officer of the guard when he visits the post.

1109. When necessary, the camp is covered at night with small outposts, forming a double chain of sentinels. These posts are under the orders of the commander of the police guard, and are visited by his patrols and rounds.

1110. When the regiment marches, the men of the police guard return to their companies, except those of the advanced post. In the Cavalry, at the sound "boots and saddles," the officer of the guard sends one-half the men to saddle and pack; when the regiment assembles, all the men join it.

1111. When the camping-party precedes the regiment, and the new police guard marches with the camping-party, the guard, on reaching the camp, forms in line thirty paces in front of the centre of the ground marked for the regiment. The officer of the guard furnishes the sentinels required by the commander of the camping-party. The advanced post takes its station.

CHAPTER VI.

ORDNANCE AND GUNNERY—SMALL ARMS.

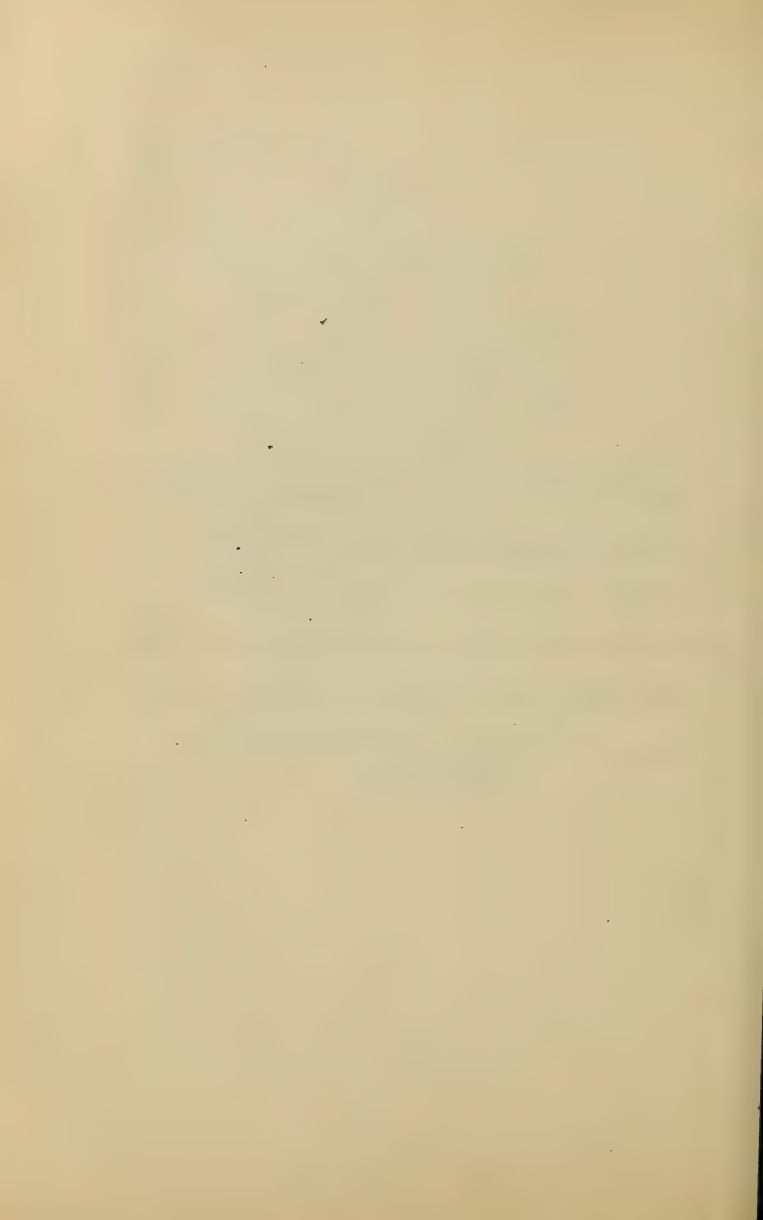
BREECH-LOADING AND MAGAZINE GUNS.

CANNON—FIELD, SIEGE, AND SEA-COAST.

ARTILLERY CARRIAGES, PROJECTILES AND FUSES.

GUNPOWDER, GUN-COTTON, DYNAMITE, ETC.

CARE AND PRESERVATION OF ARMS AND
AMMUNITION.



ORDNANCE AND GUNNERY.

The object of this chapter is simply to describe, teach the use, proper care and preservation of the arms and implements, accoutrements, and in general all the materials of war, in use in the U. S. Army or U. S. Militia.

The term, Small Arms, is applied to all weapons used for either defensive or offensive purposes, which are carried about and manipulated by one person alone.

(By calibre is meant the diameter of the bore of the gun or cannon.)

Military weapons are divided into two general classes: Fire Arms, and Hand Arms.

Fire Arms are sub-divided into Cannon and Small Arms.

The latter class comprises all weapons used and manipulated by the individual soldier, and with which the destructive agency is gunpowder; as the musket, rifle, pistol, carbine, etc.

Hand Arms are those weapons used by the individual soldier, and in which the effect is secured by contact of the weapon with the object which it is directed against.

The principal fire-arms used in the U. S. are divided into single and magazine guns. The principal single arms are the Springfield, Remington, Sharp's, and Whitney.

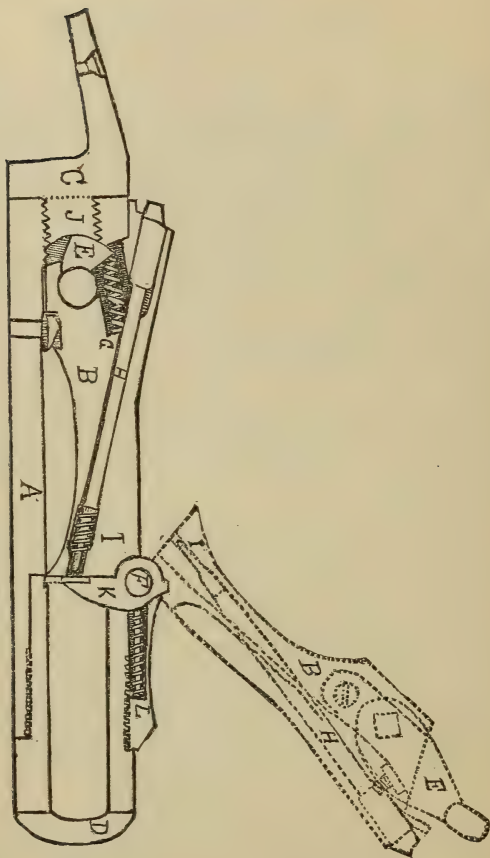
All modern fire-arms are breech loaders, *i. e.*, they are loaded at the breech instead of the muzzle of the gun.

All breech-loading guns are divided into two systems:
1st. Where the breech block opens by swinging on hinges;
2d. Where it opens by sliding in grooves.

The Springfield Rifle.

The principal parts of the Springfield rifle are as follows: The barrel, which is 36 inches long, with a bore 32.75 inches long, and .45 in diameter (the calibre), and

FIG. 2.



which has on interior surface three grooves, which have a depth each of .0075 inches, and a twist of .45 in. The grooves and lands are equal in width. To the barrel is screwed a *receiver* [See "A," Fig. 2, page 246,] or breech frame. To the frame is hinged the breech block *B*, which swings upwards. *A*, bottom of receiver; *D*, barrel; *C*, breech-pin; *E*, cam-latch; *F*, hinge-pin; *G*, cam-latch spring; *H*, firing-pin; *I*, firing-pin spring; *J*, circular recess for notch; *K*, extractor for withdrawing cartridge shell; *L*, ejector spring.

The gun is first taken apart by slipping off the two bands and unscrewing the breech pin.

The lock should never be taken out of a gun except by an expert. The trigger guard may be taken off while cleaning. The breech block is taken off the barrel by knocking out gently the hinge-pin. The cam-latch is taken out by unscrewing the breech-block cap and screw; the ejector-spring and spindle are taken out in cleaning the gun; the firing-pin spring and firing-pin are taken out by unscrewing the firing-pin screw. To clean the gun thoroughly it is first taken apart; water is then run through the barrel until the dirt is all out; the bore and chamber are then wiped thoroughly dry, and then oiled; the breech block and its different parts are wiped with rags and then oiled. The parts are then put together in the reverse of the order of taking apart.

The Remington Rifle.

The Remington gun is illustrated and explained in Figs. 3, 4, and 5, pages 248, 249 and 250.

NOTE.—The carbine is a smaller and lighter gun, designated for use of mounted troops. The Remington carbine is shown in Fig. 3a, p. 248. It has the same mechanism as the gun.

FIG. 3.—THE REMINGTON MILITARY BREECH-LOADING RIFLE,



ANGULAR BAYONET.

SABRE BAYONET.

Calibres 43, 45, 50 and 58, Centre Fire.

FIG. 3*a*.—REMINGTON CARBINE.

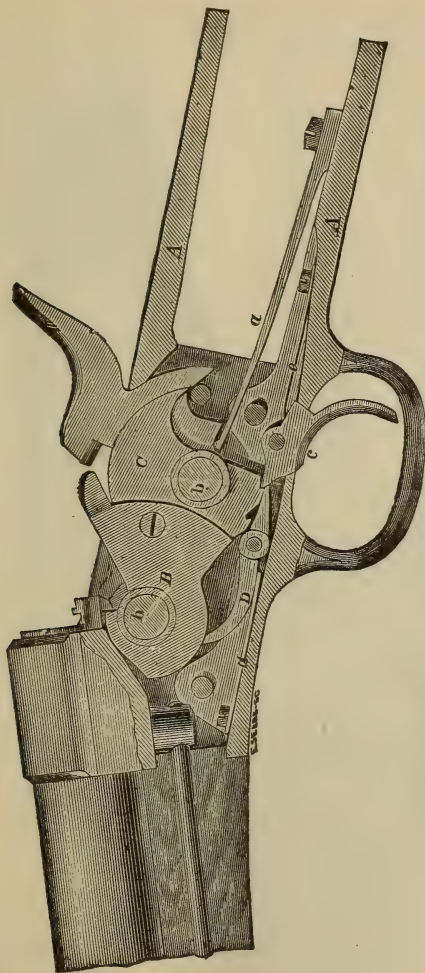


FIG. 4—BREECH ACTION, OPEN TO RECEIVE CARTRIDGE.

EXPLANATION OF PARTS AND TECHNICAL NAMES.—AA, Receiver. B, Breech Piece. C, Hammer. D, Locking Lever. *a*, Main Spring. *bb*, Pins. *c*, Trigger. *d*, Lever Spring. *e*, Trigger Spring. *f*, Firing Pin. *g*, Extractor.

The gun is loaded by cocking the hammer, pressing thumb-piece with thumb; this throws the breech up and

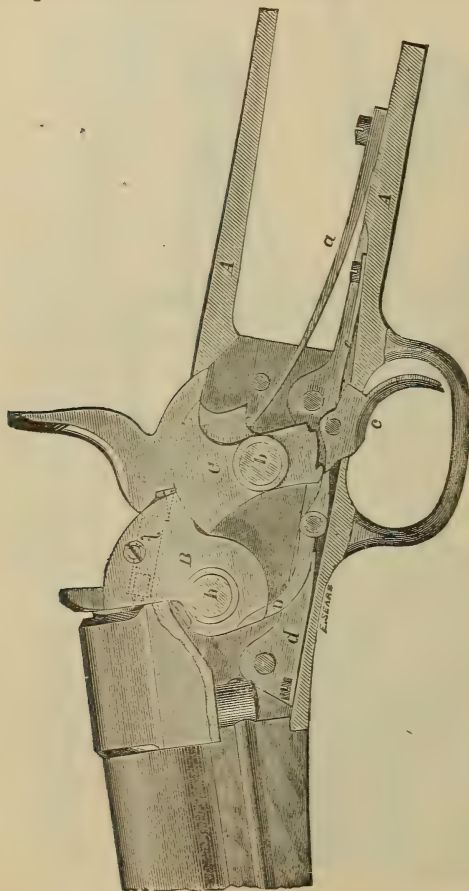


FIG. 5—SECTIONAL VIEW OF THE REMINGTON RIFLE SYSTEM, OR BREECH ACTION.
Breech action at the moment of discharge.

clear of the hammer and firing-pin. The cartridge is then inserted and the breech closed in one movement.

The principal magazine or repeating guns used, are the *Lee*, or *Remington-Lee*, as it is sometimes called, the *Hotch-*

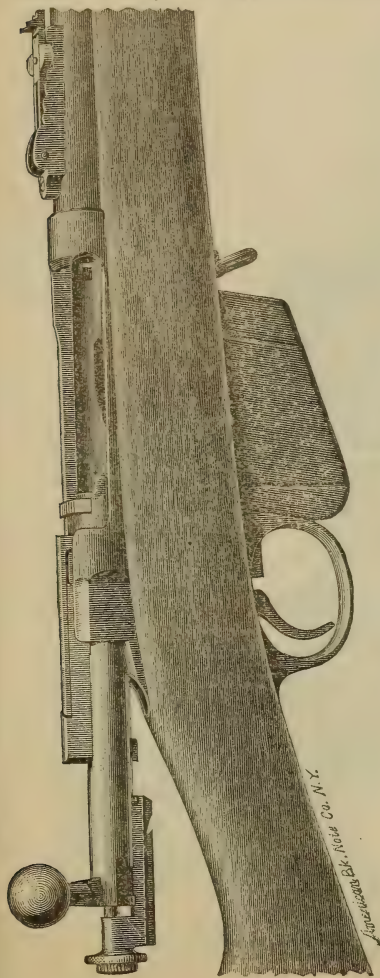


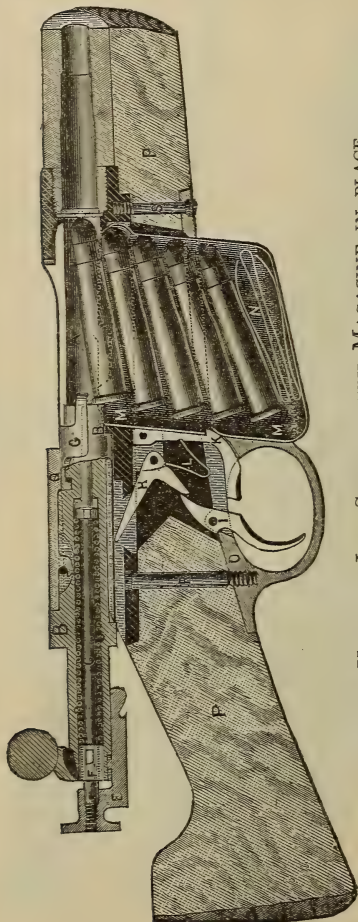
FIG. 6.—LEE SYSTEM OPEN, WITH MAGAZINE DETACHED.



FIG. 6a.—LEE MILITARY RIFLE, WITH MAGAZINE IN PLACE.
Weight, nine pounds.

kiss gun, the *Winchester* gun, and the *Chaffee-Reece* gun, and the *Sharp's* rifle.

FIG. 7.



SECTIONAL VIEW OF LEE SYSTEM, WITH MAGAZINE IN PLACE.

- | | | |
|-----------------|--------------------|---------------------|
| A. Receiver. | F. Key Sleeve, | L. Sere Spring. |
| B. Bolt. | G. Extractor. | M. Magazine. |
| C. Firing Pin. | H. Sere. | N. Magazine Spring. |
| D. Main Spring. | I. Trigger. | O. Trigger Guard. |
| E. Thumb Piece. | K. Magazine Catch. | P. Stock. |
| | R. Tang Screw | S. Guard Screw. |

The Remington-Lee gun is manufactured by the Remington Arms Company, of Ilion, N. Y., and before a Board of Army Officers appointed for the purpose of testing magazine guns, it received the highest endorsement. The gun proper is a single breech-loader, and the magazine is detachable. The general nomenclature of the gun is the same as in all others, the special details being in the breech and magazine arrangement. FIG. 6*a* represents the gun and magazine attached, and closed, ready for firing. As it stands it holds one cartridge in the breech chamber and five in the magazine. It weighs 9 lbs. Fig. 7 represents a sectional view of the gun open, with magazine, etc., with the different parts. Fig. 6 represents the gun open with magazine detached. Fig. 8 represents the magazine, and

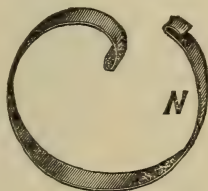
FIG. 8.—MAGAZINE MECHANISM.

COMPONENT PARTS.

M. Magazine.

N. Magazine Spring.

Weight of Magazine and Spring, $3\frac{1}{2}$ ounces.



CHARGED MAGAZINE,
LEE SYSTEM.



The Spring W serves to form a bottom to the Receiver, while the arm is used as a Single Loader.

the Government Board reported as follows concerning the Lee gun: "The gun belongs to the class of breech-loading, bolt guns. The peculiarity consists in the application of the magazine principle. In other breech-loaders the magazine is permanently attached and placed under the barrel, over the barrel, or in the butt or stock. These magazines are all tubular, the cartridges being placed one behind the other, so as to be in dangerous contact when the gun is fired. The magazine of the Lee gun is a small metallic case, containing five cartridges, which can be attached or removed at pleasure, and in the time required to load a single cartridge, the cartridges are side by side, and the magazine when in position is just below the receiver, in front of the guard, and the weight of the cartridges is therefore in the centre of the piece. When detached, the gun may be used as a single loader. In the breech mechanism there are but 22 parts, the recoil is taken upon both sides of the bolt, and the gun can be fired with accuracy 15 times in 30 seconds. The comparative simplicity of the mechanism, and the ease with which the magazine can be applied, make it a valuable and destructive weapon." As many as eight magazines can be carried in the cartridge belt, on the person, charged with five cartridges each. It takes but five seconds to fill the magazine. If rapid firing is not necessary, the gun is used as a single loader. The position of gun and soldier when magazine is being attached is represented in Fig. 9. To introduce the magazine and cartridges, hold the gun as in the figure, vertical, with the right hand grasping the small of the stock, right forearm horizontal, barrel to the rear, grasp a magazine with the left hand, take it from the belt and introduce it through the slot cut in the stock in front of the trigger guard, till the catch that holds it snaps tight. To disengage the magazine the catch is first pressed open, and the movement is then the reverse of that just given. A spring projects over the opening through which the cartridge passes upward from the magazine, forming a bottom to the receiver while the arm is in use as a single loader.

The Lee Bolt System (not referring to its magazine at-



FIG. 9.—POSITION OF SOLDIER WHILE INTRODUCING OR REMOVING MAGAZINE FROM THE
REMINGTON-LEE MAGAZINE RIFLE.

tachments) has fewer parts than any other in use, the whole being :

- | | |
|--------------------|--------------------------|
| 1. Receiver, A, | 7. Extractor, G, |
| 2. Bolt, B, | 8. Sere, H, |
| 3. Firing-Pin, C, | 9. Trigger, I, |
| 4. Main Spring, D, | 10. Sere Spring, L, |
| 5. Thumb-Piece, E, | 11. Trigger Guard, O, |
| 6. Key-Sleeve, F, | 12. Extractor Spring, Q, |

together with Tang and Guard Screws R and S, and four Pins, two of which are shown in lower part of Receiver A, Fig. 7.

In this system the resistance is direct, and is taken on both sides of the receiver, two lugs being constructed on the opposite sides of the bolt and which lock firmly into corresponding shoulders in the receiver, thereby affording an equal bearing on each side, instead of on one side only, as in most other bolt systems.

The extractor is of new design, having direct action and great power.

The arm can be carried while loaded with perfect safety by withdrawing the thumb-piece E to the half-cock notch, which operation fixes the bolt firmly to its closed position, and locks the firing-pin clear from the cartridge until the thumb-piece is drawn back to full cock, when the piece may be fired.

The ease and rapidity with which this arm can be dismounted and assembled is noticeable. By inserting the point of a screwdriver into the notch cut on the rear end of the extractor spring (see Fig. 7), the extractor spring is pressed forward, releasing the hook on its under side from the pin with which it engages when in place. This releases the extractor spring and the extractor, and the bolt may then be drawn out of the receiver. By pressing between the lug of the key-sleeve F and the bolt, the thumb-piece E, the firing-pin C and the main-spring D are released. To assemble the bolt and its parts, the pieces E, C and D are placed in their proper position, and the lug of the key-sleeve F is pressed into its locking-notch in the bolt. Returning the assembled bolt into its place in the

receiver, lay the extractor in its notch on the bolt and place the extractor spring in position, give the bolt a sharp push forward, and the hook will engage itself on the pin in the bolt-rib, when the arm will be ready for use.

To change this single fire breech-loader to a magazine arm, a magazine made to contain five (more or less) cartridges is introduced through a slot or opening cut through the stock and receiver, forward of the trigger guard, which insertion or removal can be effected as quickly as a single cartridge can be loaded into or ejected from any ordinary single breech-loader. The magazine is held in place by the magazine catch, which engages into a notch or depression in rear of the magazine, as shown in Fig. 7, and can be released in a moment by pressure on the catch.

The magazine is retained so securely in position that it is impossible for it to become accidentally released, no matter how roughly the arm is used or how severe a shock it may receive. These magazines are pressed into shape from one piece of metal, and are strengthened by a rib formed on their rear and bottom exterior, which renders them, although weighing but about three ounces, strong and rigid enough to endure without injury any shock or blow likely to be received in rough service. They may be adapted to cartridges of any length. The cartridges are held in a nearly horizontal position, the flange or head of each being in advance of the one below it, as shown in sectional cut, Fig. 7, rendering it impossible for anything to impinge upon the primer. By this arrangement of cartridges accidental explosions are rendered impossible, either from recoil or from any concussion to which the arm may be subjected.

The cartridges are fed upward into the system by the magazine spring N (Fig. 7), as fast as required, and being held strongly in position, no deformation of the bullet is possible. By actual experiment, the bullets of cartridges so held, and exposed to the recoil received from one hundred shots fired in the arm, showed no diminution in length.

The magazine mechanism proper of this arm consists only of four pieces (see Fig. 8), the Magazine M, Maga-

zine Spring N and Follower O, and the Magazine Catch K. The Spring W operates in a slot in the side of the receiver, and projects over the opening through which the cartridges pass upward from the magazine, forming a bottom to the receiver, while the arm is used as a single loader. The lower part of this spring is beveled, so that on introducing the magazine into the system, the spring is forced back into its recess in the side of the receiver, and out of the way. The complexity of the magazine mechanism of repeating arms hitherto produced, with the consequent liability to breakage or derangement, has been one of the objections offered to their adoption for military purposes.

To dismount the piece.—Insert the point of a screw-driver into the notch cut in the rear end of the extractor spring (which is on top of the bolt), and press forward, thereby releasing the hook on its under side with the pin in which it engages when in place. This releases the extractor and extractor spring, and the bolt may then be drawn out of the receiver. By pressing between the lug of the key-sleeve and bolt, the thumb-piece, the firing-pin and the mainspring are released.

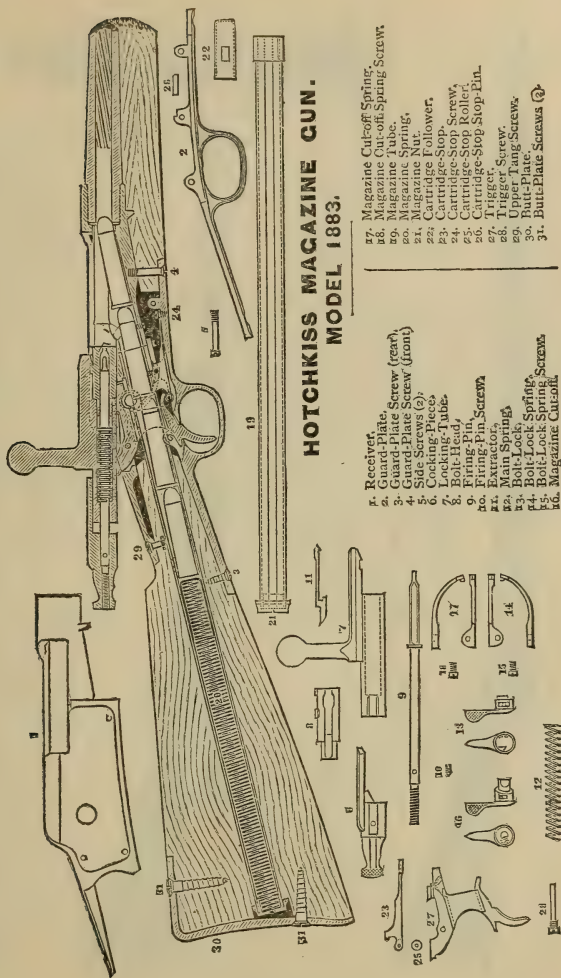
To assemble the piece.—Replace the firing-pin and its attachments in the bolt, and press the lug of the key-sleeve into its locking notch. Return the assembled bolt into its place in the receiver, lay the extractor in its notch on the bolt, and place the extractor spring in position, giving the bolt a short push forward, and the hook will engage itself on the pin in the bolt rib, when the arm will be ready for use.

The arm is carried loaded by carrying the thumb piece to the half-cock notch, which operation fixes the bolt firmly in its closed position, and locks the firing-pin clear from the cartridge until the thumb-piece is drawn back to full cock, when the piece may be fired.

The Hotchkiss Magazine Gun and Carbine.

The gun and its parts are illustrated in Figs. 10, 11, and 12.

FIG. 10.

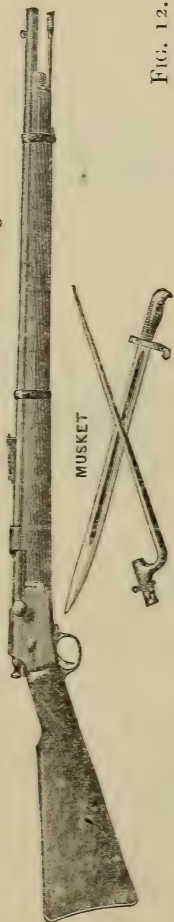


HOTCHKISS MAGAZINE GUN. MODEL 1883.

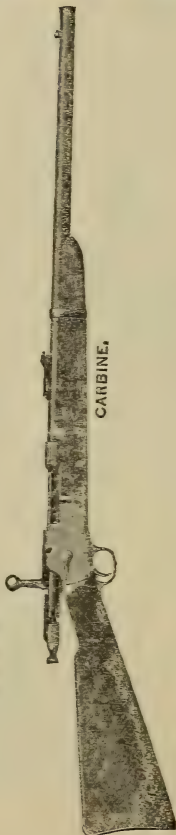
1. Receiver.
2. Guard-Plate.
3. Guard-Plate Screw (rear).
4. Guard-Plate Screw (front).
5. Side Screws (2).
6. Cocking-Piece.
7. Locking-Tube.
8. Bolt-Head.
9. Firing-Pin.
10. Firing-Pin Screw.
11. Extractor.
12. Main Spring.
13. Bolt-Lock.
14. Bolt-Lock Spring.
15. Bolt-Lock Spring Screw.
16. Magazine Cut-off.

17. Magazine Cut-off Spring.
18. Magazine Tube.
19. Magazine Spring.
20. Magazine Nut.
21. Magazine Nut.
22. Cartridge Follower.
23. Cartridge-Stop.
24. Cartridge-Stop Screw.
25. Cartridge-Stop Roller.
26. Cartridge-Stop Stop-Pin.
27. Trigger.
28. Trigger Screw.
29. Upper Tang Screw.
30. Butt-Plate.
31. Butt-Plate Screws (2).

FIG. 11.—CARBINE AND MUSKET. MODEL 1883.



Price	\$24.00	Weight	9 lbs.
Length of Barrel	28 inch.	Angular Bayonet	\$3.00
Calibre	45	Sabre Bayonet	4.00
Number of Shots	6		



Price	\$22.00	Number of Shots.	6
Length of Barrel	22½ inch.	Weight.	8¼ lbs.
Calibre	45		

This Model can only be used with Central Fire Cartridges, 45-70, United States Government.

FIG. 12.



Rules for Operating and Dismounting Hotchkiss Repeating Rifle, Model 1883.

TO OPERATE THE GUN.

1. To open the breech-bolt: Hold the stock firmly with the left hand a little in front of the receiver, and with the right hand raise the handle, and draw back the bolt, making but one motion.

2. Close the bolt by an inverse motion. This operation cocks the piece.

3. To cock the piece without withdrawing the bolt: Raise the handle as before, and immediately turn it down.

4. To load the magazine: Raise the handle and draw back the bolt. Take a cartridge between the thumb and middle finger, placing the point of the forefinger on the bullet; insert the head of the cartridge in the receiver, just in front of the point at which it narrows down, and press it back in the magazine until a distinct click—the head passing the cartridge-stop—is heard. Repeat the operation until five cartridges have been inserted. Another may then be placed in the chamber.

TO UNLOAD THE MAGAZINE.

First Method.—Raise the handle and draw back the bolt; the cartridge in the chamber will then be thrown out.

Holding the Muzzle of the Arm well up, push forward the bolt (do not turn it down), the thumb of the right hand pushing the knob on the cocking-piece; and pull the trigger. Draw back the bolt by the knob of the cocking-piece, and the cartridge will be pushed forward and remain in the receiver. Remove the cartridge, and proceed as before.

Second Method.—Raise the handle, place the wrist of the right hand against the handle of the locking-tube, the thumb being extended across the bolt in front of the handle, and the forefinger resting upon the barrel. Draw back the bolt (keeping the hand in the same position) by pressing the back of the thumb near the wrist against the front of the handle; remove the cartridge with the thumb

and fingers, which are thus at liberty to receive it. Push forward the bolt (do not turn it down), and pull the trigger.

Withdraw the bolt with the back of the thumb as before, and stop the cartridge coming from the magazine with the fore or index finger. Remove the cartridge, and proceed as before until the magazine is exhausted.

DO NOT TURN DOWN THE HANDLE

during the operation of unloading the magazine, as any possibility of discharging the arm by pulling the trigger while a cartridge is in the chamber is thus prevented.

THE MAGAZINE CUT-OFF.

This device is found on the left of the piece, just in the rear of the bolt-handle. It serves to lock the magazine so that the arm may be used as a single loader while the contents of the magazine are held in reserve. When the thumb-piece of the magazine cut-off is thrown down, the arm acts as a magazine gun. When the thumb-piece is pushed up, the arrangement of the mechanism is such that no cartridges can escape from the magazine to the chamber, and the arm is practically a single loader.

THE BOLT-LOCK.

This piece is placed on the right side of the receiver, opposite the magazine cut-off, and serves at the same time to lock the bolt and the trigger in such a manner that the bolt cannot be turned nor drawn back, nor the arm fired. To lock the bolt and trigger, push up the thumb-piece of the bolt-lock; this can only be done when the bolt is closed and the gun cocked. To unlock the bolt, push down the thumb-piece of the bolt-lock.

TO DISMOUNT THE GUN.

1. Take out the bolt. To do this, raise the handle, and draw back the bolt until the forward end of the cocking-piece just clears the rear end of the receiver; then, letting go the handle, take hold of the cocking-piece, and turn it down to the right until the projection on the bolt-head leaves the groove under the front-end of the locking-tube. The latter may then be drawn out at the rear, and the

bolt-head removed at the front of the receiver. To return the bolt, the head must be inserted from the front, and the other part from the rear.

2. Take off the butt-plate, by removing the two butt-plate screws.

3. Take out the magazine nut.

4. Take out the magazine spring and follower.

5. Take out the guard side-screws.

6. Take out the guard-screws and the upper tang-screw.

7. Take off the butt-stock, by drawing it backwards from between the guard and upper tang, and off from the magazine tube.

8. Take out the guard.

9. Take out the bolt-lock and magazine cut-off springs. It will aid persons unacquainted with the gun, when endeavoring to replace these parts, to remember that the flat sides of the springs lie next the receiver.

10. Take out the bolt-lock and magazine cut-off. While these parts resemble each other exteriorly, it will be observed that the bolt-lock has a short pivot, and is assembled on the right of the arm, while the magazine cut-off has a long pivot, and is assembled on the left.

11. Take out the magazine tube. This is accomplished by drawing back the magazine tube from its seat in the frame, and turning it slightly to the right, so that it may pass the trigger.

12. Take out the wiping-rod.

13. Take off the bands.

14. Remove the tip-stock. This is best done by separating the tip-stock or fore-arm from the barrel; first at the forward end of the tip-stock, separating them until the stud on the receiver is withdrawn from the slot in the rear end of the tip-stock.

15. Take out the trigger by removing the trigger-screw.

16. Take off the barrel. This should be attempted only by persons provided with proper tools, as the barrel and receiver are very firmly assembled together.

17. The cartridge-stop may be dismounted from the guard by unscrewing the cartridge-stop screw, and driving out, from the left to the right, the stop-pin.

TO DISMOUNT THE BREECH-BOLT.

1. Remove the bolt-head. To do this hold the cocking-piece firmly in the left hand, and with the right turn down the handles, as in the act of locking the bolt. The head will then slip off.

2. Turn out the firing-pin screw.

3. Slip the bolt-head partly on the projecting end of the firing-pin, and use it as a wrench to unscrew the pin. The main-spring may then be removed.

4. Remove the extractor, by tapping gently on its projecting end with a piece of wood.

To assemble, proceed in the inverse order of the operations given above.

The Chaffee-Reece Gun.

The Chaffee-Reece gun is described in Fig. 13, p. 266. This gun is either a single or magazine breech-loader also.

Instructions for Use of the Chaffee-Reese Magazine Rifle.

The half-cock locks the breech. Uncock, or full-cock, to open it.

To Lock the Breech.—If the firing-pin or hammer should be at full-cock, let it down slowly to half-cock, by placing the thumb upon the end of the hammer and pressing the trigger at the same time. If the bolt is closed, raise the handle to a vertical position, and back again, *or* it can be done by pulling the hammer back to half-cock.

To Unlock the Breech.—Pull the hammer back to the full-cock notch, or draw it slightly back, pressing on the trigger at the same time.

Never attempt to move the cut-off when the bolt is open, as the magazine can be put on or cut off only when the breech is closed.

Put the button to the front to cut off the magazine, and reverse to attach the magazine.

The magazine can be properly charged only when the breech is fully open, with the magazine on. The gate in the butt-plate can be opened only when the breech is open.

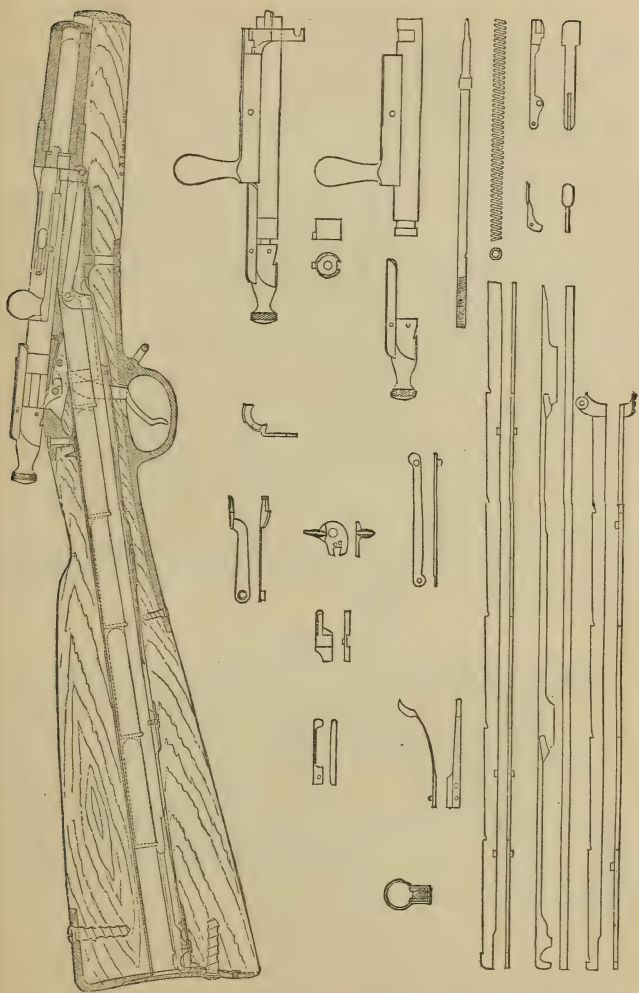


FIG. 13.—CUT SHOWING PARTS OF GUN IN DETAIL.

Do not attempt to charge the magazine with the breech open and the magazine cut off.

To Charge the Magazine.—See that the magazine is on by pressing on the cut-off button in the direction of the butt, while the bolt is closed; then fully open the breech, and take the bolt handle in the left hand, and by it hold the rifle, muzzle down, resting on the toe of the boot—not on the ground. Take six cartridges from the cartridge box, and with the flange of the head of one, or with the thumb-nail, open the gate in the butt-plate. Insert the cartridges, bullets down, into the magazine tube, pushing the last cartridge with the little finger until you feel it pass the end notch of the ratchet bar, *but no farther*; then shut the gate and bolt, and press the cut-off in the direction of the muzzle. The arm can now be used as a single loader, with the magazine in reserve.

In charging the magazine for immediate use (the barrel being empty), put seven cartridges in the magazine—the closing of the bolt will push the front cartridge into the chamber, leaving six in the magazine. Do not move the cut-off forward in this case.

All movements of the bolt in loading and firing should be made quickly. The bolt should be completely closed with one continuous motion.

TO TAKE OUT THE FIRING-PIN.

Open the bolt, then with the thumb and finger of the right hand, take hold of the hammer, pulling it far enough to the rear to disengage it from the notch in the bolt, then turn it to the right, and the hammer and its spring will be disconnected from the bolt. *To replace* it, reverse the motion to the left until the coupling of the hammer is engaged with that of the bolt, by pushing it forward; then turn it to the right until the spring snaps into its notch again, and the arm is ready for use. This can be done with the bolt in or out of the gun.

TO TAKE THE ARM APART.

- 1st. Take out the ramrod.
- 2d. Take off the bands.

3d. See that the magazine is disconnected.

4th. Take out the extractor. This is done by lifting the extractor lever cam with a knife blade, or the end of a cartridge shell. Lift up the extractor lever and take out the extractor. This can only be done when the magazine is cut off.

5th. Take out the bolt, pressing it on the trigger as you pull it back.

6th. Take off the butt-plate.

7th. Take out the guard screws.

8th. Take out the tang screw at the rear end of the receiver.

9th. Draw out the magazine tube, as far as it will come with ease.

10th. Lift the barrel out of the stock.

11th. Take off the guard.

12th. Take the screw out of the elevator spring at the bottom of the front end of the magazine.

13th. Draw out the magazine tube.

To reassemble the parts, reverse the operations described; but pull the right-hand bar of the magazine to the front as far as it will go, and the left-hand bar to the rear before putting it into the stock.

Hand Arms.

Hand arms are designed for offence or defence at close quarters. They are divided into three classes, viz :

1st. Those that act by the point.

2d. Those that act by the edge.

3d. Those that act by either the point or edge, or by both point and edge.

The weapons of the first class are the straight sword, the bayonet, and the lance or spear.

The straight sword used in the U. S. Army is represented in the accompanying plate as Fig. 1. The different parts are the handle and the blade. The blade is divided into the point *a*, the middle *b*, the reinforce *c*, the shoulder *d*, and the edge *e*, and the tang, or the portion that is inserted into the handle. The blade is from 24 to 34 inches in length, and

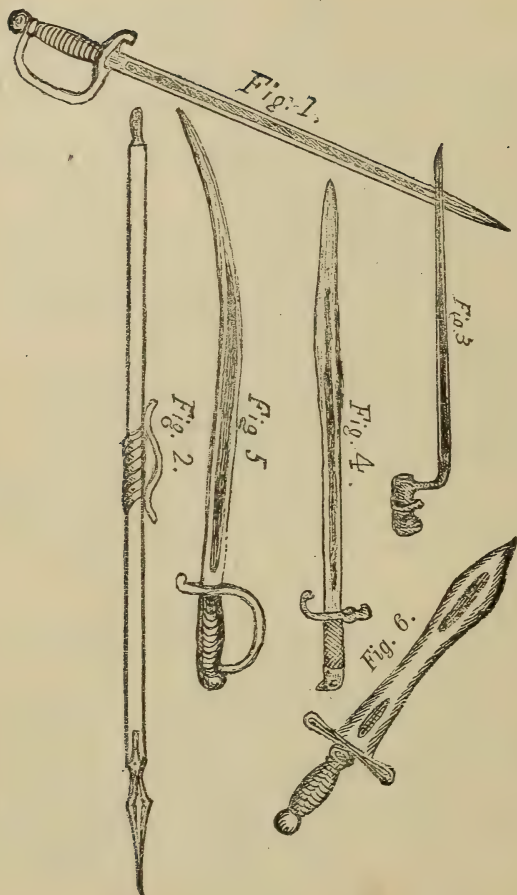


FIG. 14.—HAND ARMS.

weighs $1\frac{1}{2}$ pounds. The handle is divided into the knob *f*, the gripe *g*, and the guard *h*; the gripe is made of wood, and covered with leather or sheet brass, and wrapped with wire to prevent slipping in the hand. The guard is composed of the cross-piece *i*, and the curved branch *k*. The guard is to protect the hand, and sometimes has at the cross-piece a plate.

The lance is composed of a blade, *a*, Fig. 2, of steel, and measuring from 8 to 12 inches in length. It is ground like a bayonet, and generally has three or four grooves. It has a socket at its base to secure it to the handle, and two wire straps which are riveted to the handle. The handle *b* is of wood, about $9\frac{1}{2}$ feet long, with its lance, and protected by a tip of iron. At the centre is a leather strap *c*, to hold the lance and enable the men to grind it. The weight of the lance is about 4 to 6 pounds. It is not used in the U. S. Army except to attach to pennons or guidons, in either Cavalry or Artillery. When carried, the lower end is placed in a leather cup attached to the stirrup, and the right arm is passed through the leather loop. It is held vertically. The bayonet is a short blade attached to the end of a gun. The musket bayonet is composed of the socket *a*, (Fig. 3,) the clasp, *b*. The blade is made of steel, 18 inches long, with three grooved faces; the grooves are called *flutes*. The socket is of wrought iron made so as to fit carefully over the barrel of the gun at the muzzle. It is held in place by a stud fastened on the barrel, which fits in a channel or groove cut in the socket, and by a movable ring called the clasp.

The sword bayonet (Fig. 4) is, as its name designates, of the form of a sword. The handle is made of a solid piece of metal, the back of the handle has a groove which fits on the stud of the barrel, and the cross-piece is perforated so as to encircle the muzzle end of the barrel. The length of the blade runs from 22 to 28 inches, and breadth $1\frac{1}{2}$ to 2 inches, weight, 2 pounds.

The weapons of the second class are the various classes of swords, generally described in Fig. 1. Swords may be double-edged, or with one edge only, as the sabre. The Sabre is represented in Fig. 5.

Sabres sometimes have a basket hilt in which the guard is composed of several branches forming a basket shield. The blade of the Cavalry sabre is 36 inches long, and of the light Artillery sabre 32 inches long.

The only weapon of the third class is the short sword; the blade is about 19 inches long. The general form is shown in Fig. 6.

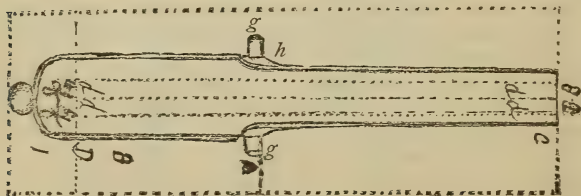
All swords, bayonets, and sabres, are carried in shields called scabbards, to protect them from injury. They are generally made out of leather for foot troops, are of metal for mounted troops, and are suspended from the waist belt of the soldier.

Cannon.

Cannon are divided into three classes, viz.: 1st. *Field guns* are those accompanying troops on the march and in the field of battle; 2d. *Siege guns* are those which are too heavy to move about with troops, but follow armies, and are used in the manner indicated in laying siege to fortified places; 3d. *Permanent guns*, are those which are mounted on carriages and platforms made specially for them, and never moved. These latter are of the greatest size and weight, and as they are mostly used in fortified places on the sea-coast, they are also termed sea-coast guns.

Field-guns are divided into *Field-guns proper*, *Magazine guns* and *Howitzers*. The field guns used in the U. S. Army are the 3-inch rifle, the 3.2 inch steel breech-loading rifle, and the Hotchkiss mountain howitzer. The 3-inch rifle muzzle loading gun is as follows: [Fig. 15.] The body

FIG. 15.



of the gun is that part in rear of a plane passed perpendicular to the axis of the piece and tangent to the front part

of trunnions marked *a, b, d*. The chase is that part in front of this plane, marked *c*. The bore is the hollow cylinder marked *d, d, d, d*, which receives the charge. The mouth is the front of the bore, marked *e*; the bottom of the bore is marked *f*, and is a semi-elliptical curve.

The axis of the piece is an imaginary line running perpendicular to the plane in front of the trunnion and through the centre of the bore; the vent is a hole through which fire is communicated to the charge. It is near the bottom of the bore, and perpendicular to the axis. The bore is rifled and has three grooves and three ridges called bands, all of equal width. The trunnions are the arms *g, g*, perpendicular to the axis of the piece, in the same plane with it, and support the piece on its carriage; the shoulders *h, h*, are the rim bases; the breech is all the solid portion of the gun in rear of the bore, the base of the breech the curved surface at bottom of the bore; the knob *i*, is the cascabel. On the outside of the gun near the front, on the upper surface, is a small piece of metal projecting vertically, called the front or muzzle sight. The rear sight is composed of a seat screwed into the base of the gun, on which rests the sight, called the pendulum hausse. (For dimensions, etc., see table.)

For 3.2 inch steel breech-loading rifle, see Fig. 16.

The gun is made of low steel, all tempered in oil except the interior tube. Length of entire gun 90".7, length of entire tube 85".2, diameter of gun in rear of collar of muzzle 4".6, maximum diameter 6.009"; chamber is 10" long, maximum diameter 3".8. Shape is that of a frustrum of an ellipsoid. This is called the powder chamber; at the end of it the shot chamber commences; it is 3".4 in diameter, and then commences a straight taper 2" long, when diameter becomes 3".2, runs for 1".475, then commences another straight taper of 2" to the bottom of the grooves where it is 3".3 diameter, and to top of lands where it is 3".2 diameter. Number of grooves, 24; width of grooves, 0.3"; width of lands, 1.188"; depth of grooves, .05. Twist, one turn in 30 calibre, *i. e.*, 90 feet.*

* Weight, 800 lbs.

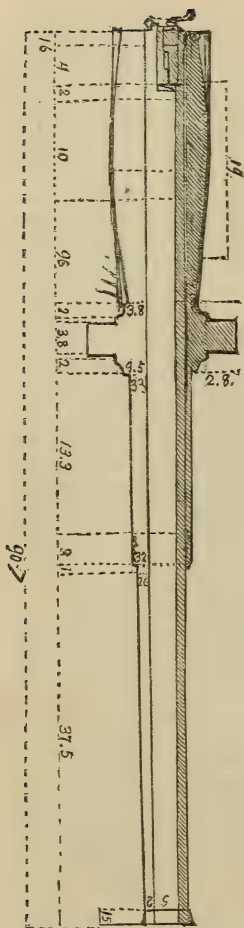


FIG. 16.

The parts of the breech mechanism are as follows (Fig. 16): Breech block, which locks into a jacket tightly screwed in the gun, called breech-block jacket. Its length is 5".95. It has an intercepted screw thread for four inches from its forward end. The fuse obdurator or gas check consists of a small spindle with a head the form of a truncated cone, an expanding gas ring fitting against this head, and a spiral spring. Through the spindle runs a vent 2" diameter, at front end of which is copper bushing. Two locking vents at rear hold it in place. The carrier ring is locked in place by a pin at lower part, which is operated by a lever handle. The gun is loaded and fired as follows: Raise the lever handle till its axis is parallel to that of the piece; this movement unlocks the breech-plug, and allows it to be turned; hold the lever handle in left hand, in this position, and, with right on fixed bronze handle, turn the breech-plug with lever handle till it stops; depress lever handle as far as possible; this movement locks carrier ring. Pull out breech-plug through carrier ring with left hand, right hand grasping fixed handle; the withdrawing of the breech-plug releases carrier straps, and as the plug is fully withdrawn the carrier ring is unlocked, and can be swung around the hinge-pin

with block. Insert projectile first, and then the charge ; swing the carrier ring and block around again into place smartly ; raise lever handle till its axis is parallel to that of piece ; then push breech-plug forward by means of the fixed handle ; then turn plug around to the right till it stops, keeping lever handle raised while turning ; then depress lever handle. The piece is now ready for firing.

TABLE I. FIELD GUNS.

	Length.	Length of bore.	Max. diameter.	Min. diameter.	Weight.	Preponderance.	Width of grooves.	Depth of grooves.	Width of bands.	Depth of bands.	Diam. of bore.	No. of gros.
3-inch Rifle	12".80	6".45	9".4	8".5	820	40 lbs.	8".4	.075	5	3".2	.	7
3.2-inch Rifle . . .	90".80	85".2	8".9	4".6	7912	7711 oz	3"	.050	11".88	11	.	24
Hotchkiss M. B. L.	47".8	42".7	.	.	1166	.	.	.	.	16.5	.	.

The magazine guns for field use are the *Gatling* and the *Gardner*, or, as it is sometimes called, the Pratt-Whitney gun.

The machine guns now used by the U. S. and foreign governments, are the Gardner, the Hotchkiss, and the Gatling. The following is the description of them and the service of each.

Service of the Gardner Machine Gun.

GENERAL DESCRIPTION OF THE GUN AND CARRIAGE.

The Piece.—This gun has but two barrels whose axes are in same horizontal plane, and they are enclosed in a brass cylinder or casing which protects them.

The mechanism is also protected by a brass casing, the top of which is a swinging cover, hinged to give access to the working parts. The cover, when closed, is secured in position by a few turns of the screw-threaded cascabel.

The Carriage.—The distinctive feature of the carriage is the arrangement for oscillation, the lateral movement being regulated by a clamp, which compresses, or allows to expand, a metallic ring concentric with the pivot around

which the gun moves. The lever for elevating or depressing, as well as giving the oscillation, is peculiar to this gun.

The Limber.—The limber-chest is opened in rear by a lid, which falls down, and is held in place by jointed braces, thereby serving as a shelf. When down, it exposes a series of drawers, six (6) in number, and two recesses for implements. In these drawers the ammunition is carried in the original pasteboard packages. Each drawer has a capacity for 45 packages or 900 rounds, thus giving to each limber 5400 rounds.

Weight of gun 142 lbs.

Weight of gun and carriage 502 “

Fires three times at each revolution of the hand-crank, and with a rapidity equal to 357 shots per minute.

SERVICE OF THE PIECE.

The detachment for the service of the piece should consist of one non-commissioned officer and three men. They are posted at the piece limbered, as follows: No. 1 outside the wheel of the carriage and on a line with the crank-handle. No. 2 in corresponding position on the opposite side of the carriage. No. 3 aligned on the rear part of the limber wheel, and the gunner on the opposite side, and on the same alignment. All 1 yard outside the carriage and limber wheels, and faced to the front.

When the piece is not horsed, it is moved by hand, by Nos. 2 and 3 working at the end of the pole, and the gunner and No. 1 at the wheels of the carriage. In unlimbering and limbering Nos. 2 and 3, work the end of the pole, No. 1 assisting the gunner at the trail.

As soon as the cannoneers are posted, equipments are taken. At the command “TAKE EQUIPMENTS” from the Instructor, Nos. 2 and 3 receive cartridge-pouch from the gunner, which they wear from the left shoulder to the right side.

Posts of Cannoneers—piece unlimbered.—The posts of cannoneers at the piece unlimbered are as follows: Nos. 1 and 2 on opposite sides of the piece and facing it. No. 1

on the right, No. 2 on the left, on a line with the rear part of the wheels of the piece and 2 feet outside, No. 3 in rear of limber. The gunner on the left of the trail handspike, near the end and face to the front.

Loading and Firing.—The piece is loaded and fired by the following commands of the Instructor, repeated by the gunner.

1. *Load.*—At this command the gunner steps to the piece, prepares it for firing, turns the safety-crank upwards to the rear until the crank-stop drops into its rear recess in the casing, adjusts the sights and lever, and regulates the oscillator, if it is to be used. No. 1 steps in and seizes the crank handle with his right hand. No. 2 steps in between the piece and wheel, and, standing faced to the right, takes from his pouch a package of cartridges, takes off the cover, and, with his left hand, places the heads of the cartridges in the grooves of the feed-guide, the wooden slide between the two rows of cartridges being held against the head of the rib, between the grooves of the feed-guide, and, sliding the case down, pulls it off and throws it down. He immediately takes from his pouch another package, and proceeds in the same manner, thus keeping up a constant supply of cartridges. Should any of the cartridges catch in the grooves of the feed-guide, he will employ both hands to work them down. The feed-guide should be full before commencing firing.

The pasteboard boxes may be preserved for further use.

No. 3 will, as rapidly as possible after the piece is unlimbered, fill his pouch with packages from the drawers, and proceed to empty them in regular order, commencing with the left hand upper drawer.

2. *Commence Firing.*—At this command, repeated by the gunner, No. 1 will turn the crank slowly and uniformly. It is better to fire a few shots (say five) with deliberation, to enable the gunner to make any necessary alterations in the elevation. On receiving intimation from the proper source, the firing will be continued, the rapidity being regulated by the Instructor. No. 2 will continue to feed, and, before the supply of cartridges is entirely ex-

hausted, will call CARTRIDGES to No. 3, who will move as rapidly as possible to No. 2, and, taking off his pouch of cartridges, exchange for the empty one of No. 2, which he will proceed to fill.

Cease Firing.—At the command cease firing, which is repeated by the gunner, No. 1 drops the crank-handle and resumes his post. No. 2 removes the cartridges from the feed-guide and hopper, placing them in his pouch, and takes his post. If there is to be no more firing on that ground, No. 3 replaces the packages left in his own pouch and in that of No. 2 in the drawer—the loose ones being consigned to a special one—and closes the lid of the limber chest. No. 1 may be employed to assist No. 2 in removing the cartridges from feed-guide and hopper.

Changing Posts.—This is executed with piece unlimbered, by the commands: 1. *Change Posts*, 2. MARCH. At the command *Change Posts*, No. 1 faces to his left and Nos. 2 and 3 take off their pouches, No. 2 placing his against the wheel, and No. 3 his on the lid of the chest, if it be lowered; if not, against the wheel of the limber. At the command MARCH, all step off, No. 1 taking the post of No. 3; No. 3 that of No. 2, and No. 2 that of No. 1, in double time, No. 2 passing in rear of the trail, and, on reaching their posts, Nos. 2 and 3 will equip themselves with their pouches.

Mounting and Dismounting Cannoneers.—To mount the cannoneers the commands are: 1. *Cannoneers, prepare to mount*, 2. MOUNT. At the first command Nos. 1 and 2 will run to the limber, and each grasping the handle of the ammunition chest with the hand nearest to it, and placing the opposite foot on the foot-board, will grasp their unemployed hands.

The gunner and No. 3 will take their positions near Nos. 1 and 2, and on their own side of the piece.

At the command, MOUNT, Nos. 1 and 2 will spring up on the chest, and, seating themselves, will turn about, throwing their legs over the handles, face to the rear. The gunner and No. 3 will mount in the manner described for Nos. 1 and 2, and will seat themselves facing to the front.

To dismount cannoneers the commands are: 1. *Cannoneers, prepare to dismount*, 2. DISMOUNT.

At the first command the gunner and No. 3 will stand up in their places; at the second, all the numbers will jump to the ground and run to their posts.

OBSERVATIONS.

1. If the crank be turned before the feeding of the cartridges is commenced, the first few will fall irregularly and check the working of the gun.

2. Be careful to reclamp firmly the swivel and pointing-lever after pointing.

3. To oscillate the gun without changing the elevation: Unclamp the swivel and turn the gun back and forth from right to left by means of the pointing-lever, regulating the amplitude of the vibration by the oscillation-stop head.

4. When the firing is discontinued, turn the safety-crank downwards and to the front, until the crank-stop drops into its front recess in the casing.

5. This gun may be fired by turning the crank backward.

IMPLEMENTS, ETC.

Wiping rod.	Shell driver.
T Screw driver.	Hammer.
Lock wrench.	Drifts.
Headless-shell extractor.	Breech casing cover (leather).
	Packing case.

TO DISMOUNT THE GUN.

1. Unscrew the cascabel and raise the breech cover.

2. Remove the barrels. To do this, drive out the front and rear barrel-plate pins; interpose a plug of wood or a cartridge shell between the rear of either barrel and its corresponding lock, taking care that it does not enter the chamber; turn the crank gently and the lock will force the barrels partly out of the casing, when they may be removed by hand.

3. Remove the locks. To do this, turn the crank until either locking-cam recoil-plate is uppermost; rotate the

corresponding lock about the recoil-plate until it is vertical and draw it out at the front.

4. Remove the ejectors directly by their pins.
5. Remove the lock-cam, raising it vertically by means of its journal boxes. The journal boxes may be removed from the cam by driving out the journal-box and hand-crank pins.
6. Drive out the lock-guide pin and remove the guide. The shell-starters may be removed from the lock-guide by driving their pins and the cartridge guide by turning out its screw.
7. Turn out the cocking-cam screw which enters the cam through the bottom of the casing and remove the cam.
8. Turn out the feed-valve and valve-lever screws and remove valve, valve-slide, lever and lever-slide.
9. Drive out the safety-crank pin and remove the crank. The safety-stop head, the stop and spring, may be removed from the crank by driving out the stop-head pin.
10. Drive out the safety-crank shaft and remove the splive.
11. Slide the main-spring compressor out at the rear of the guide.
12. Drive out the elevating and pointing lever, the swivel and casing, and pivot-pins; remove the casing and pointing lever.
13. Remove the swivel and carriage pivot-bolt lock; unclamp the swivel and lift it from the carriage. The gun, swivel, etc., may be removed directly from the carriage in the manner prescribed for the swivel alone.

To assemble proceed in the inverse order.

TO DISMOUNT THE LOCK.

1. Drive out the extractor pin and remove the extractor.
2. Unscrew the lock-head by means of the lock-wrench.
3. Uncock by pressing on the sere and turning the cocking-lever to the rear; drive out the cocking-lever pin and remove the lever.

Note.—All the taper pins in the casing are driven in from right to left.

4. Draw out the firing-pin, remove the rack and unscrew the main spring.

5. Drive out the sear-spring pin and remove the spring.

6. Drive out the sear-spring and remove the sear.

7. Drive out the truck-pin and remove the truck.

To assemble, proceed in the inverse order, taking care to return the firing-pin so that its flat will be at the extractor-slot and the front tooth on cocking-lever enters front space in rack.

The Hotchkiss Revolving Cannon.

THE GENERAL SYSTEM.

The system of this gun may be explained as follows: Five barrels grouped around a common axis are revolved in front of a breech-block, which has, in one part, an opening to introduce the cartridges, and another through which to extract the empty shells.

The five barrels, made of the finest oil-tempered cast steel, are mounted around a common axis between two disks, on a central shaft. The series of barrels are placed in a rectangular frame, which is attached to the breech, the rear end of the shaft penetrating the same to receive the rotary motion from the driving gear.

The breech itself is composed of a solid cast-iron breech-block, weighing 175 kilograms (385 pounds). This absorbs the greater part of the recoil. It has a door at the rear end, which can be easily opened, so that the mechanism is accessible, and can, if necessary, be taken out and put in place in a few minutes, without the aid of any special tools.

A peculiar feature in this gun consists in the barrels remaining stationary during the discharge, so that there is no movement of any kind to impede the accuracy of fire.

All parts of the mechanism are very strong and durable, and hardly exceed in number those of an ordinary small-arm, there being, beside the group of barrels, thirteen parts, viz:

1, 2. The breech-block with its door for closing the rear end.

3, 4, 5. The crank-shaft, with its worm for moving the barrels, and small crank for working the loader and extractor.

6. The crank.

7, 8. The firing-pin and main spring.

9. The extractor.

10, 11. The loading-piston and rack for moving it.

12. The cog-wheel for transmitting the movement of the extractor to the loading-piston; and,

13. The door for regulating the feed of cartridges.

The operation of the mechanism is as follows—supposing the crank to be in continual motion :

A cartridge is placed in the introduction trough, the piston pushes it into the barrel, the barrels begin to revolve, and the cartridge is carried on till it arrives before the firing pin held in the solid part of the breech, and which has, in the mean time, been retracted by the action of the cam. As soon as the cartridge has arrived in position, the barrels cease to revolve, and the primer of the cartridge is struck by the firing-pin and discharged; the revolution of the barrels begins again, and the fired cartridge-shell is carried on until it comes to the extractor, which in the meantime has arrived up to the barrels, and the cartridge-head rolls into it. As soon as the head is laid hold of by the extractor, the barrels again cease to revolve, and during this period the cartridge-shell is withdrawn and dropped to the ground. During every stoppage of the barrels the gun is supplied with a new cartridge, the firing and extraction are also performed, and a continuous but slow fire kept up. Supplying the gun in this manner with single cartridges, about thirty rounds per minute may be fired.

Should rapid firing be required, the gun is supplied with “feed cases,” containing ten cartridges each. In this manner from sixty to eighty rounds per minute can be fired, with only three men to work the gun, viz: One man to point the gun and revolve the crank, one man to place the “feed-cases” containing the cartridges into the “feed trough,” and a third at the ammunition chest to charge the “feed-cases” and to hand them to the loader.

Carriage.—The carriage is of steel, and all of the fixed parts except the felloes and spokes are of metal. The peculiarities of this carriage are: An iron trail-handspike permanently attached to the end of the trail, the pivot end being let in between two eye-plates raised on the top of the trail.

When not in use it is revolved to the front and rests in a Y fastened to the lid of a tool-box placed between the cheeks, midway between the trail and the breech of the piece. This tool-box contains the following:

One spare firing pin.

“ “ main spring.

“ feed trough.

“ wrench.

“ oil can.

A recess for hand-crank.

Two hammers.

“ drifts (large and small).

Between the cheeks and in rear of the tool-box are two small shifting-planks about two feet in length. They are taken out underneath, and are held in place by a leather strap buckled between the cheeks, and passing through slots cut near the lower edge.

The cheeks are held together by assembling bolts.

The traversing screw, by which a slight lateral motion is given to the gun, is let into a brass shaft running from cheek to cheek, and through the centre of which the elevating screw runs.

The wheel working the screw is on the left cheek, and the clamp for the same on the right.

To diminish the recoil of the piece, and for light grades in traveling, there is attached near each axle-shoulder a hand-brake or friction-lever which binds, to a certain extent, the axle and hub.

The carriages are also provided with lock chain, shoe, etc., as in Siege Guns.

The gun and carriage are connected by an iron turn-table in the top of which the trunnions sit. The bottom of the turn table is pivoted to the top of the carriage, thus permitting the action of the traverser.

There are attached to the cheeks the following implements:

Two wooden hand-spikes (one on each cheek).

One wiping-rod (on the left cheek).

One lock chain and shoe (on the right side).

Limber.—The following are the peculiarities of the limber: The pole lets into an iron frame and is held by two bolts with threads and nuts. The splinter-bars are of iron and are hung by their centres to an eye-plate under the ends of the brackets.

Limber Chests.—The upper-half of the chest is constructed for carrying 200 rounds of ammunition placed in a vertical position, the fuse end down and resting in a slight depression reamed out of the floor partition, the upper end being held steady by thin boards perforated with holes the size of the shells, and through which the ammunition passes.

The lower half of the chest is divided into three compartments. The lower half of the centre one holds two case-carriers of metal, provided with leather straps to go over the shoulder. Over this is a drawer containing implements. On either side of the centre compartment is another, holding five galvanized-iron feed cases, each carrying ten rounds, thus giving the chest a carrying capacity of 300 rounds.

The lower half of the chest is opened by a drop-lid—held by iron braces—which serves as a shelf for serving ammunition. Under the foot-boards on the right side, is a leather watering-bucket. Under the axle and wound on horizontal hooks pointing outwards from each other, is a trace-rope or prolonge.

The iron frame, into which the rear end of the pole is fastened, extends to the rear of the limber and terminates in a carriage-hook with key and chain.

On the front of the limber-chest are the following implements: One axe, one spade, and one pick-axe. The handles of the axe and pick-axe rest in iron cleats. The blade of the spade is put through a leather loop and the handles of all are securely strapped to the chest.

The top lid is covered by a leather cushion which is strapped to the same.

SERVICE OF THE PIECE.

For the service and management of the piece there should be: maximum number of men—1 gunner, 5 cannoneers; minimum number of men—1 gunner, 2 cannoneers.

As few men as possible should be kept about the piece, consistent with its proper service and management.

The following is given on a basis of a gunner and 5 cannoneers.

Posts of Cannoneers at Piece Limbered.—The posts of the cannoneers at piece limbered are as follows:

No. 1 on left of piece one yard from front part of carriage wheel.

No. 2 corresponding position on right of piece.

No. 3 on the left and one yard from rear part of limber wheel.

Gunner, corresponding position on right of limber.

No. 4 on right of limber and one yard from front part of wheel.

No. 5 corresponding position on left of piece. All faced to the front.

As soon as the cannoneers are posted, the equipments are taken at the command of the Instructor, TAKE EQUIPMENTS. The gunner steps to the limber-chest and distributes to Nos. 3 and 4 a case carrier, which they sling from the left shoulder to the right side and then resume their posts.

On arriving on the firing ground, the command is given by the Instructor: ACTION REAR (FRONT, RIGHT, OR LEFT), which is executed in the manner similar to that laid down in Artillery Tactics, the gunner and No. 3 working at the trail, Nos. 1 and 2 at the wheels of piece, assisted by Nos. 4 and 5, if necessary, each on his own side of the piece.

When the piece is not horsed, Nos. 4 and 5 work at the end of the pole.

Posts of Cannoneers, Piece Unlimbered.—Nos. 1 and 2

on the right and left of the piece respectively, two feet outside of the rear part of wheels, facing the piece.

No. 3 five yards to the right of No. 2, faced to the front.

No. 4 two feet in rear of left limber-wheel, faced to the front.

No. 5 in rear of centre of limber, and within reaching distance of chest faced to the front.

As soon as the trail is lowered to the ground, the gunner prepares the piece for firing, adjusting the sights, and seeing all the parts are in working order, giving the piece the desired elevation by means of the elevating screw.

The gunner points, using the trail-handspike for an approximation to accuracy, and the traverser to complete it.

If the direction is to be changed after firing has commenced, he is assisted in this by No. 3 or 4, whichever happens to be at the piece. In pointing before firing he is assisted by No. 1.

Service.—The firing is executed by the command, **LOAD** and **COMMENCE FIRING**, from the Instructor.

Load.—At the command, **LOAD**, repeated by the gunner, No. 1 steps in and seizes the crank-handle.

No. 2 steps in and adjusts the feed-trough, if it is not already in place, and faces to his right, ready to receive a feed-case from No. 3, who, at the command, **LOAD**, goes to the limber and receives from No. 4 a feed-case, which he places in the case-carrier and carries quickly to No. 2, who opens the lid end and places it in the trough, regulating the rolling of the cartridges into the breech-casing with his right hand.

As soon as No. 3 has delivered his case to No. 2, he repairs in double time to the limber and receives another case from No. 5.

No. 4, as soon as he has passed a filled case to No. 3, receives one from No. 5, which he places in his carrier; and, when he sees No. 3 starting back from the piece, will himself move quickly to the piece and stand ready to hand the case to No. 2, passing it with his right hand and receiving the empty case with his left, places it in the carrier.

No. 3 having received another filled case from No. 5, will start for the piece as soon as he sees No. 4 leaving it. Thus alternating, Nos. 3 and 4 will keep up a constant supply of cartridges.

The duties of No. 5 are to keep the empty feed-cases filled from the supply in the top of the chest, or from the original packages, when the supply in the limber-chest is exhausted. If the firing will permit, he may be assisted by Nos. 3 and 4 alternately.

At the command, COMMENCE FIRING, repeated by the gunner, No. 1 will turn the crank with a uniform motion.

No. 2 will see that the cartridges pass evenly into the piece, and, as soon as a feed-case is empty, he will turn to No. 3 or 4 for a filled case, receiving it in his right hand, passing with his left the empty one, underneath his right arm, to No. 3 or 4.

Cease Firing.—At the command, CEASE FIRING, repeated by the gunner, No. 1 ceases to turn the crank. No. 2 replaces the cartridges not in the gun in the feed-case, closes its lid, and hands it to No. 3 or 4 to carry back to the limber. All the feed-cases are replaced in the limber, the lid closed, and all the cannoneers resume their posts.

To Remove the Ammunition and Empty Shells from the Barrels.—The gunner opens the door which closes the breech, removes the firing pin, and directs No. 1 to turn the crank until the cartridges and empty shells fall to the ground.

To Change Posts.—The commands of the Instructor are: 1. *Change Posts.* 2. MARCH.

At the Piece Limbered.—At the first command, Nos. 3 and 4 take off their equipments and place them on the ground to their right. The cannoneers on the right of the piece face about.

At the second command, all the cannoneers step off, No. 1 takes the post of No. 3, No. 3 of No. 5, No. 5 of No. 4, No. 4 of No. 2, and No. 2 of No. 1, passing in front of the muzzle for that purpose. On reaching their new posts all

the cannoneers face to their proper front, Nos. 3 and 4 putting on their equipments.

At the Piece Unlimbered.—At the first command, Nos. 1 and 5 face to their left, Nos. 3 and 4 take off their equipments and place them on the ground to their right. At the command MARCH, all step off, No. 1 takes the place of No. 5, No. 5 of No. 4, No. 4 of No. 3, No. 3 of No. 2, No. 2 of No. 1 stepping over the trail for that purpose.

As soon as the men reach their new posts the equipments are taken by the men who wear them.

Mounting the Cannoneers.—The cannoneers in an emergency could all be mounted on the limber-chest in the following manner :

At the command of the Instructor, *Cannoneers prepare to Mount*, all the cannoneers run to the front of the limber from their own sides. Nos. 1 and 2 grasping with their right and left hands respectively the handles of the limber-chests, placing the opposite foot on the foot-boards and clasping hands wait for the command MOUNT ; as soon as it is given they spring into their seats and throwing their legs outward over the wheels remain faced to the rear.

The gunner and No. 5 now mount in a similar manner and take their seats faced to the front. They then assist No. 3 to mount, who grasps the chest-handle with his right hand and places his left foot on the foot-board. As soon as he is up he places his hands on the shoulders of the gunner and No. 5 and springs over, taking his seat between Nos. 1 and 2. Following No. 3, No. 4 mounts from the right and takes his seat between the gunner and No. 5.

A strap could be passed from the chest-handles, making a temporary rest for the feet of those cannoneers who are faced to the rear.

To Dismount the Cannoneers.—The cannoneers are dismounted by commands: 1. *Cannoneers Prepare to Dismount.* 2. DISMOUNT.

At the first command the cannoneers faced to the front will stand up. At the second command, all jump to the ground and resume their posts.

The Wheel Brakes.—When it is necessary to use the

wheel-brakes on the light grades, it is done by Nos. 1 and 2 throwing over to the front the handles and pushing them down firmly with the feet. Nos. 1 and 3 adjust the lock-chain and shoe on heavier descents.

Service of the Piece with Diminished Numbers.—The following would be the distribution of duties with diminished numbers :

NUMBERS RETAINED.	DISTRIBUTION OF DUTIES.				
	GUNNER.	1	2	3	4
Gunner 1	G. 2-3-4	1-5			
" 1 2	G. 5	1	2-3-4		
" 1 2 3	G	1	2	3-4-5	
" 1 2 3 4	G	1	2	3-4	4-5

Precaution.—Great care should be exercised in handling the ammunition, as the loaded shells of this piece have percussion fuses.

AMMUNITION.

The ammunition consists of a centre-fire metallic cartridge of special construction, holding in each one the powder, the projectile, and the lubricating wad, arranged like the ammunition generally used for small-arms. Both solid shot and shell are used. Solid shot made of steel are capable of penetrating iron plate of one inch thickness at 1000 yards. The shell is of cast-iron.

Calibre of gun 1.457.

Rifling one turn in 4 feet.

(Twist and depth of grooves uniform).

Number of grooves 12.

Weight of shell with fuse 16.05 oz.

Charge of powder 4.3 "

Weight of complete cartridge 25.04 "

Weight of piece 1047 lbs.

Weight of carriage, complete 1002 "

Hotchkiss 1.65-inch Breech-Loading Mountain Gun.

GENERAL DESCRIPTION OF GUN AND CARRIAGE.

This gun, having been devised especially with reference to mountain service, is made as light as practicable. It weighs only 116.6 pounds, and one man is able to place it upon the back of a mule. The weight of the carriage being but 220 pounds, the packing, unpacking, and mounting of the gun and its carriage require only two men.

For transportation, the material is distributed as follows: One mule carries the piece and two small chests containing accessories; another mule carries the carriage and shaft, and two others carry the ammunition chests.

PRINCIPAL DIMENSIONS.

Total length	45.87 inches.
Total length of bore	41.80 "
Calibre	1.65 "
Number of helicoidal grooves . .	10
Twist (to the right)	49.21 "
Depth of grooves (uniform) . . .	.12 "
Total weight of piece	116 lbs.

Cartridge.

	LBS	Ozs.
Weight of empty shell	1	10½
" bursting-charge	1.76	
" loaded shell	2.19	
" powder-charge in cartridge.		5.5
" cartridge and loaded shell, 2.11		

Initial velocity 1275 feet.

The Carriage.—The carriage is of steel, and of simple construction, the cheeks being two flanged plates, joined together by the trail plate, an iron bolt through which the elevating screw passes, and an inclined plate under the body of the piece.

SERVICE OF THE PIECE.

Four (4) men are required for the service of the piece—a gunner and three (3) cannoneers.

General Duties.—The gunner commands, keys up and

unkeys the shafts, adjusts the rear sight, points, and superintends the service of the ammunition.

No. 1 opens and closes the breech-block, and fires the piece.

No. 2 introduces the ammunition into the bore, and assists in pointing.

No. 3 keeps No. 2 supplied with ammunition, and assists the gunner in keying and unkeying shafts.

Post of Cannoneers at Piece Limbered.—If there is a limber, Nos. 1 and 2 are opposite the front part of the wheels of the carriage and two feet from them, faced to the front, No. 1 on the left and No. 2 on the right. The gunner, opposite the rear part of right limber wheel and two feet from it, No. 3 in a corresponding position on left of limber. When the shafts only are used, the gunner and No. 3 would occupy similar positions on the right and left of the animal, opposite its head.

Take Equipments.—The equipments are taken as soon as posts are taken at the piece limbered, at the command of the Instructor, TAKE EQUIPMENTS. Nos. 1, 2, and 3 approach the gunner, who gives to No. 1 a tube pouch, to Nos. 2 and 3 a cartridge-pouch, which they wear from the left shoulder to the right side.

Firing.—Having reached the firing-ground, the Instructor gives the command, UNHITCH, when the gunner, assisted by No. 3, unkeys the shafts, and gives the command, DRIVE ON. The animal is driven to a convenient place, and the piece prepared for action.

If a limber is used, it will be conducted as prescribed in Light Artillery Tactics, the same commands being given for unlimbering.

Post of Cannoneers at Piece Unlimbered.—The post of No. 1 is two feet outside the rear of the right wheel of the carriage, facing the piece. No. 2 occupies a corresponding position on the left of the piece. The gunner on the left of trail near the end, faced to the front. No. 3 with the ammunition chests, or in rear of the limber, if there is one.

The piece is served by the commands of the Instructor: 1. LOAD, 2. FIRE.

Load.—The command is repeated by the gunner, who steps to the breech, arranges the rear sight, and superintends the loading.

No. 1 opens the breech by turning the handle to the rear, and then pulling laterally, until the block strikes against the stop-screw. No. 2 inserts the cartridge into the chamber until the flange strikes the extractor hook. No. 1 then closes the breech by pushing the block, and raising the handle to its first position.*

As soon as the charge is inserted, No. 2 goes to the end of the trail and assists the gunner in giving the direction; No. 1 prepares a friction primer. At the signal from the gunner No. 2 resumes his post. The gunner then gives the necessary elevation, and at the command, *READY*, from the gunner, No. 1 inserts the friction primer in the vent, steps two yards to his left and rear, and at the command, *FIRE*, from the gunner, pulls the lanyard with a strong, steady movement of the arm. No. 3 keeps No. 2 supplied with ammunition, and collects the empty shells.

Change Posts at Piece Limbered.—The commands of the Instructor are:—1. *Change Posts.* 2. *MARCH.* At the first command, Nos. 1, 2 and 3 take off their equipments and lay them at their feet, No. 2 facing about, and at the command *MARCH*, all the cannoneers move off and take their new posts and equipments, and face to the proper front.

No. 1 takes the post of No. 3. No. 3 of No. 2, No. 2 of No. 1.

Change Posts at Piece Unlimbered.—At the first command, all remove their equipments and place them at their feet, and No. 1 faces to his left. At the command *MARCH*, No. 1 takes the post of No. 3, No. 3 that of No. 2, and No. 2 that of No. 1; No. 2 passes over the trail for that purpose.

At the command *CEASE FIRING*, from the Instructor,

* Great care must be taken that in pulling out or pushing in the breech-block, the handle is horizontal and to the rear, otherwise the threads of the block-screw will become battered, and the gun rendered unserviceable.

repeated by the gunner, the empty shells are gathered up, (being intended for further use), and the ammunition taken back to the chests or limber, as the case may be.

Gatling 0.45 Inch Gun.

NEW MODEL WITH LONG BARRELS.

DESCRIPTION.

The Gatling gun consists of a number of very simple breech-loading rifled barrels, grouped around and revolving

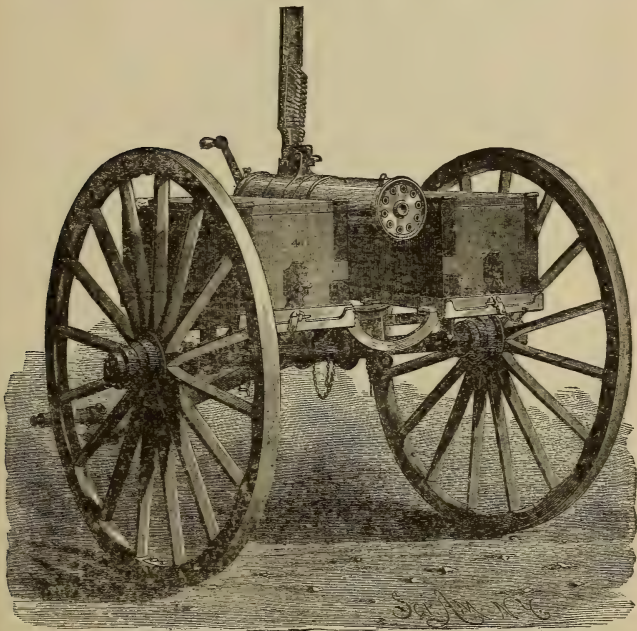


FIG. 17.—LIGHT TEN-BARRELED GATLING GUN ON CARRIAGE.

ing about a shaft, to which they are parallel. These barrels are loaded and fired while revolving, the empty car-

tridge shells being ejected in continuous succession. Each barrel is fired only once in a revolution of the group, and as many shots are delivered during that time as there are barrels, so that the ten-barrel Gatling gun fires ten times in one revolution of the group of barrels. The action of each part is therefore deliberate, while collectively the discharges are frequent. The working of the gun is simple. One man places one end of a feed-case full of cartridges into a hopper at the top of the gun, while another man turns a crank by which the gun is revolved. As soon as the supply of cartridges in one feed-case is exhausted, another case may be substituted, without interrupting the revolution or the succession of discharges. The number of barrels composing the gun as originally made was ten. The bore of each barrel extends through from end to end, and the breech is chambered to receive a flanged, centre-fire, metallic-case cartridge. The breech ends of all the barrels are firmly screwed into a disk or rear barrel-plate, which is fastened to the shaft, and the muzzles pass to another similar disk, called front barrel-plate, on the same shaft. The shaft is considerably longer than the barrels, and projects beyond the muzzles, and extends backward for some distance behind the breeches of the barrels.

The gun can be unloaded of any cartridges not fired by removing the feed-case, opening the hopper, and reversing the motion of the crank. In the new model the mechanism of the locks has been greatly strengthened, as well as otherwise improved, and there are means provided for their insertion and removal without taking off the cascabel-plate.

For each lock removed, however, one unexploded cartridge falls to the ground at each revolution of the gun. The gun is incased in a frame which has trunnions, and is mounted in the ordinary way, like a field-piece. The screw for elevating and depressing the breech, works in a nut attached to the trail of the carriage in the usual way. An automatic traversing apparatus is applied, by which a limited angular movement in a horizontal plane may be given to the gun.

Straight Feed-Cases.—The cases which contain the cartridges, and which are applied to the hopper when it is desired to feed the gun, are long, narrow boxes of sheet-iron, reinforced by gun metal, open only at the lower ends. The cross-section of the case is trapezoidal, the edge next to which the heads lie, being wider than the cartridge-heads, while that which receives the points of the balls is of the width of the ball.

Carriage.—The carriage for this piece is similar in its construction, and about the same dimensions as the old prairie carriage. Firmly bolted to the stock and under the trunnions of the gun, is an iron bed-plate. Resting on this bed-plate is a Y shaped iron swivel, the branches terminating in trunnion-beds, in which the trunnion of the gun rests. The swivel turns easily on the bed-plate, and is pivoted to it, permitting the action of the traverser and oscillator.

Implements with Carriage.—Two trail-handspikes under the stock and hung on washer-hooks.

One wiping rod and one ejector carried in an iron casing or tube under the stock.

One lock-chain on the right.

Clamp for elevating screw on the left.

Gunner's seat of sheet-iron on the stock.

Limber.—The only peculiarity about this limber, is the manner in which the ammunition is disposed. The back of the limber is a drop-lid; when down, it is supported by a strong leather strap. In this position, the lid serves as a shelf for serving ammunition, and refilling feed-cases.

The body of the chest is divided into compartments, fifty for feed-cases and one larger for tools or implements, thus giving each limber a carrying capacity of 2000 rounds.

The feed-cases are filled by holding the case near the middle in the left hand, the closed end inclining slightly downward, and placing the cartridges in singly with the right hand, and letting them roll to the top.

The stop-spring may be held back during this operation,

by placing some object between it and the case. A wooden wedge can easily be made for this purpose.

Weight of gun	200 lbs.
Weight of carriage with implements and turn- table	360 lbs.
Weight of limber (without ammunition)	440 lbs.

Service.

For the service of this piece four (4) men are necessary, a gunner and three cannoneers.

The equipments consist of two pouches, which are hung on the knob of the cascabel.

Posts of Cannoneers at Piece Limbered.—Nos. 1 and 2 on the left and right of piece respectively, aligned on the front part of carriage wheels, and one yard from them. No. 3 on left of limber aligned on rear part of wheel, and one yard from it. Gunner, a corresponding position on right of limber, all faced to the front.

Take Equipments. At this command from the Instructor, Nos. 2 and 3 approach the gunner and receive each a cartridge or case-pouch, which they sling from the left shoulder to the right side. No. 1 then assists the gunner to remove the covering, if there is one which is placed in the limber.

The piece is unlimbered and prepared for action, according to the principles, and by the commands laid down in Light Artillery Tactics, No. 3 assisting the gunner at the trail, and No. 1 handing the gunner the trail-handspike.

Posts of Cannoneers at Piece Unlimbered.—No. 1 on right of piece, facing it and two feet from rear part of wheel. No. 2, corresponding position on the left. Gunner on left of trail-handspike near the end. No. 3 immediately in rear of limber.

General Duties.—The gunner prepares the piece for firing, adjusting the sights, superintends the firing, gives the necessary direction and elevation, regulates the traverser and oscillator, and during the firing sees that the shots strike the proper point. No. 1 turns the crank and sees that the cartridges feed properly, and uses the ejector when

necessary. No. 2 feeds the piece with ammunition from feed-cases, and sees that the cartridges feed properly. No. 3 keeps No. 2 supplied with feed-cases, carries back empty ones, and assists the gunner in pointing if necessary.

The commands of the Instructor are: 1. LOAD, 2. COMMENCE FIRING, 3. CEASE FIRING, 4. SECURE PIECE.

At the command LOAD, by the Instructor, the gunner repeats the command, and, stepping in, adjusts the rear sight for the proper distance. He then gives the piece the proper elevation by the elevating screw, correcting the direction by the traversing screw, and resumes his post. No. 1 steps in, frees the crank from the latch, which he turns under the casing, and seizes the crank-handle with his right hand, being careful not to turn it till the command COMMENCE FIRING is given. No. 2 steps in between the wheel and piece, and, as soon as he is supplied with feed-cases, takes one from his pouch in his right hand, and springs it on the hopper, the slit to the right and projectiles to the front. As soon as a case is empty he takes it from the hopper and replaces it by a filled one. The empty one is returned to the pouch. No. 3 runs at once to the limber, fills his pouch with feed-cases, takes it to No. 2, who exchanges his empty pouch for the full one of No. 3. The cases are placed in the pouches spring catch to the right. No. 3 takes the empty pouch to the limber, fills it, and carries it to No. 2, and exchanges with him for the pouch of empty cases. No. 3 runs with the empty cases to the limber, places them in compartments, fills his pouch with filled ones, and proceeds to the piece and exchanges pouches with No. 2, thus keeping up a constant supply of cases.

Commence Firing.—This command is repeated by the gunner. No. 1 turns the crank with a uniform motion, avoiding all sudden movements or lateral wrenchings, allowing ample time for the cartridges to drop from the feed-cases into the carrier.

Should any of the shells not be thrown out after firing, or the piece become jammed in any manner, he will at once notify the gunner, who will see that the proper means are taken to remove the obstruction.

If the gun jams, remove the feed-case at once, open the hopper, and reverse the crank until all the cartridges are taken out. This will be found to save time, unless the cause of the jamming is evident, and in the immediate vicinity of the hopper.

When it is necessary to use the ejecting-rod, No. 1 steps to the front, unkeys it, and, under the direction of the gunner, removes the obstruction by forcing it backwards.

Cease Firing.—At the command of the Instructor, repeated by the gunner, No. 1 ceases to turn the crank. No. 2 removes the feed-case and opens the hopper. The gunner directs No. 1 to slowly reverse the crank while No. 2 removes the cartridges and restores them to the feed-case, which he gives with all the others, empty and filled, to No. 3 to return to the limber-chest. No. 1 secures the crank by the latch, and all resume their posts.

If for any purpose it is desired to temporarily arrest the firing, the Instructor or gunner commands HALT. No. 1 stops turning the crank, and all remain at their positions until the Instructor or gunner commands, COMMENCE FIRING or CEASE FIRING.

Secure Piece.—The gunner steps to the piece and lowers the rear sight, runs down the elevating screw, and, with the assistance of Nos. 1 and 2, who step to the front for that purpose, places and fastens the canvas over the piece; all then resume their posts.

Service of the Piece with Reduced Numbers.—When the number of cannoneers is reduced, the respective duties are performed as indicated by the following :

NUMBERS RETAINED.	DISTRIBUTION OF DUTIES.		
	Gunner.	1	2
Gunner 1	G 1	2 and 3	
" 1 and 2	G	1	2 and 3

Precautions.—Never lay the cover on the ground, as it is liable to have sand or gravel adhering to it when placed on the gun, which may derange the working of the parts.

In traveling, the piece should always be covered.

See that all the parts are kept well oiled.

A partially filled feed-case should not be put back into the ammunition chest without being filled up, as the cartridges may become inverted and jam the gun.

Before using the oscillator, be careful to take out the swivel pin, so as to give the full field of fire.

To Take the Gun Apart.

1. Remove the locks.
2. Remove the screws and take off cascabel-plate.
3. Remove the screw from the end of the crank-shaft and take off the oscillating-screw, drive out the steady-pin and take out the crank-shaft worm and sleeve.
4. Remove screw from rear end of main shaft and take off worm gear, using clamp for that purpose.
5. Take off brass traversing apparatus.
6. Take out screws, and remove hopper and breech-casing.
7. Unscrew screw from lock-cylinder, back out steady-pin which holds the rear-guide nut, and remove the nut. (The nut works on a left-hand thread).
8. Take off lock-cylinder and carrier-block.

To remove the barrels singly, stand the cluster of muzzles up, and let the rear end of the main shaft strike gently on a block; the shaft and front plate will be forced off, after which the barrels may be unscrewed with a socket-wrench.

To take the breech-casing apart, remove the screws which hold the double cam to the diaphragm, and slide it out to the rear.

To Assemble the Gun.

1. Put the breech-casing together, screw the barrels into the rear-plate, replace the front plate and shaft, insert the front end of the shaft into the socket in front of the frame, and rest the front and rear plates on blocks.
2. Replace the carrier-block and lock-cylinder.
3. Put on the rear-guide nut and replace steady-pin and screw.

4. Put on the breech-casing and hopper, and replace the screws.
5. Put on the brass traversing apparatus.
6. Replace the worm-gear.
7. Replace worm and sleeve, and insert crank shaft, fastening the worm in its place with the steady-pin.
8. Replace the oscillating nut and set-screw.
9. Replace the cascabel plate and screws.
10. Replace locks.

In taking the gun apart, it will be found much more convenient and expeditious to first remove the cascabel plate, add then the locks by hand; and, in assembling it, they can be inserted in the same manner before replacing the cascabel plate.

When the lock-extractor is used, the breech plug is turned horizontally, the crank-handle is turned until the mark on the rear barrel-plate and the arrow on the hopper coincide, when the lock is withdrawn.

Siege Guns.

The siege guns used in the U. S. are 30 pounder Parrott;* the $4\frac{1}{2}$ inch rifled gun; 8 inch howitzer; 8 and 10 inch mortar; and 24 pounds Coehorn mortar.

The general form of the Parrott gun is as follows: It is made of cast-iron reinforced by a jacket of wrought iron. The bore is 4.2 in diameter, and the length is about 120."0; its weight is about 4200 lbs. It is a rifled gun, has no preponderance; it has 7 grooves, 1-10 in depth. Weight of projectiles, 25 to 30 lbs.; charge, $3\frac{1}{4}$ lbs. mortar powder; range upwards of 6000 yards. The $4\frac{1}{2}$ inch rifled gun is similar in appearance and shape to the 3 inch rifled field gun. Its weight is 3450 lbs.; diameter of bore, $4\frac{1}{2}$ inches; length of bore, 119 inches; number of grooves, 9; depth of grooves, .073 inches; in twist, 15 feet; weight of projectile, 30 lbs.; charge, $3\frac{1}{2}$ lbs. It is made of cast iron. The 8 inch howitzer is nearly obsolete; its form is shown in Fig. 3; it is 5 feet long; weight, 2600 lbs., with pre-

* The 30 lbs. Parrott is not included among the regulation guns of the U. S. service, but was used to a greater extent during the war than any other. It has been therefore thought best to describe them.

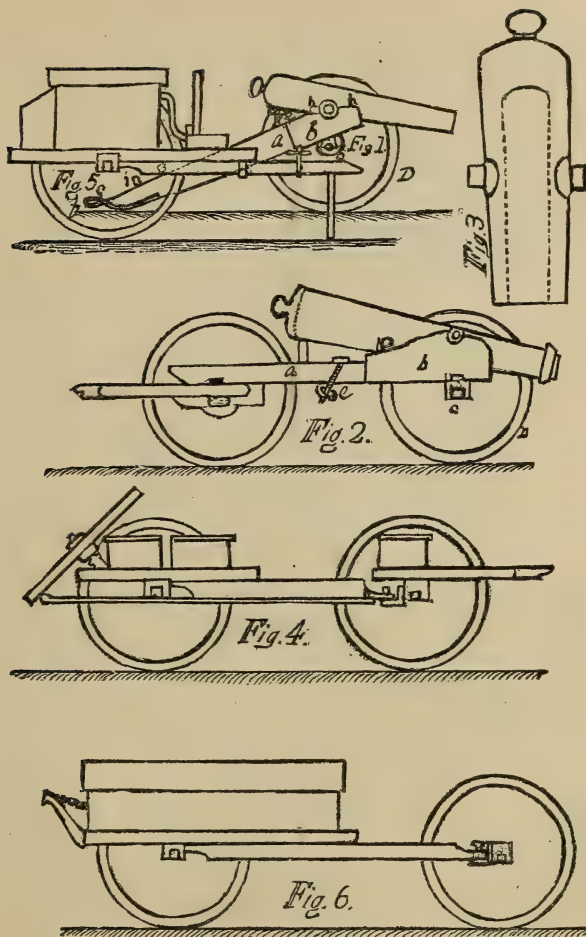


FIG. 18.

ponderance of 380 lbs. ; bore, 8 inches diameter and $46\frac{1}{2}$ inches long ; projectile, 44 lbs. ; charge, 4 lbs.

The form of a mortar is shown in Fig. 8. The object of a mortar is to obtain a vertical fire, or to place projec-

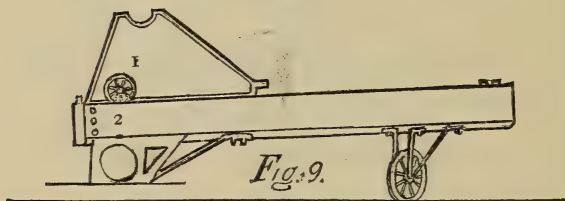
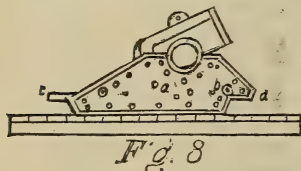


FIG. 19.

tiles within an enemy's work ; the projectiles used are shells, weighing 44 lbs. for the 8 inch and 88 lbs. for the 10 inch mortar. The Coehorn Mortar throws a 24 lb. shell.

The following table gives the dimensions, weights, etc., of mortars :

	13 inch.	10 inch. Sea-Coast.	10 inch. Siege.	8 inch.	Coehorn.
Weight	17120	7300	1900	1010	164
Length	54.6"	47".5	28"	22"	16".3
Length of Bore	35.1"	32".5	20".5	16"	8".7
Length of Chamber					4".25

Sea-Coast Cannon.

The uses of sea-coast guns are to protect permanent works, harbors, etc. They are always in forts or turrets, or floating batteries, and are of too great size to carry

about. The sea coast guns now used in the U. S. are the 20" and 15" smooth bores, and the 12", 10" and 8" rifles. The first two and last named guns are comparatively useless, as owing to the rapid progress made in manufacturing heavy guns, rifled cannon of far greater power, and less weight, will be used almost exclusively. Smooth-bore guns are also called Rodman guns, because of their manufacture on a plan proposed by Capt. Rodman, of the U. S. Army, shown in the general form of the 20" and 15" guns.

Their dimensions and weights are given in the table.

The 12", 10", and 8" rifles are made by converting old 15", 12", and 10" smooth-bores.

Wrought iron and steel tubes are introduced, and the guns reinforced. The guns are all more or less in an experimental state, and the absolute type of each sized gun is not definitely determined upon.

TABLE OF PROJECTILES AND POWDER WEIGHTS.

GUN.	CHARGE.		PROJECTILE.		RANGE.	
	Lbs.	Lbs.	Solid.	Shell.	Yards.	
20 inch . . .	200	100	1080	...	...	...
15 inch . . .	150	60	450	330	7800	...
12 in. rifle . . . . .	...	...	620	475	...	...
10 in. rifle . . . . .	...	...	292	...	...	...
4½ in. rifle	3½	3¼	32.5	25.5	3500	...
3 2 in. rifle	3½	...	...	13.60	6500	...
3 in. rifle	1	1	10	9.5	3800	...

TABLE OF CARRIAGES USED IN U. S. SERVICE.

KIND.	WEIGHT.
Mortar Wagon	3185 Lbs.
3.2 in. Metal Gun Carriage	1300 "
3 in. Gun Carriage and Limber Equipped	3781 "
Gatling. Same	1546 "
Gardner	578 "
Siege Gun Carriage	3743 "
12 in. Rifle and 15 in. Smooth Bore	{ Top Carriage . . . 17000 "
3 in. Caisson	
Gatling	3819 "
Gardner	2565 "
	697 "

Gun Carriages.

Gun carriages are classified into field, siege and sea-coast. The principal parts of field siege carriages are the stocks (*a*), the checks (*b*, *b*), the axletree (*c*), the wheels (*d*), the elevating screw (*e*), Fig. 1, p. 299. The stock is made of wood, the front end joined to the axle, and the rear end covered by a plate of iron, called the trail plate (*f*), and having a large iron ring, called the lunette ring (*g*). When in position for traveling the lunette ring passes over a hook, called the pintle hook, of the front axle. When in position for firing, the trail rests on the ground, and the handspike is inserted in the two rings (*i*, *i*), called pointing-rings, to give direction to the gun. The elevating screws give the elevation or depression for aiming. The checks are two strong pieces of wood firmly attached to the stock and axle by bolts called assembling bolts. They have a curve cut in their upper surface, and a plate fits in this curve, called the trunnion beds. The trunnions of the gun rest in the trunnion beds; they are secured in their places by two plates of iron called (*h*, *h*) cap squares. The axle is composed of the axle tree, made of wrought iron, and the axle body, made of wood. The siege gun carriages are similar to the field gun carriages. Their principal differences are shown in Fig. 2. The limber is the carriage to which the gun carriage is attached when traveling. It is composed of [Fig. 4] (*a*) axle tree, (*c*) fork, (*d*) splinter bar, (*e*) pintle hook, (*g*) pole, yokes and pads [Fig. 4], limber chest (*h*). Fig. 4 represents the caisson, which is but a double limber, having three chests for ammunition, a spare wheel, a spare pole, and a spare handspike. The caisson also carries a felling axe, shovel, and pickaxe, tarpaulin, two buckets and watering buckets. Figs. 5 and 6 represent the traveling forge for repairing broken iron work and shoeing horses, and battery wagon, which carries tools and supplies for repairs. The 3".2 gun carriage is made of metal throughout.

(Table gives sizes and dimensions of all gun carriages and beds.)

Mortars, on account of the high angle under which they

are fired, are mounted on beds instead of carriages, which would break or overturn with the recoil. (Fig. 8) shows the mortar bed. It consists of checks made of wrought iron (*a, a*) and two trunnions (*b, b*) which connect the checks (*c, c*) are projections for placing the handspikes in aiming, and a bolt (*d, d*) for the same purpose. The longer mortars have no eccentric axle and wheels, for facility in pointing, aiming and loading. Mortars are carried in wagons made especially for the purpose.

It is composed of a limber and body; the body consists of two middle rails and two side rails, which rest directly on the axle and are connected together by straps of iron and cross pieces of wood; at the rear is fastened a windlass to assist in mounting and dismounting guns and mortars. The weight of the wagon complete is 3185 lbs.

To insure accuracy of fire, mortars and siege guns are fired from platforms made especially for the purpose. The principle of their construction is lightness, to be transported with ease, combined with strength.

TABLE GIVING THE DIMENSIONS AND PIECES OF DIFFERENT PLATFORMS.

Size 13-inch. Platform, 15'x15'x2'.2"	Table of Sea Coast Mortar Platforms.	13-inch.				10-inch.			
		No. of pieces.	Width.	Length.	Thickness.	No. of pieces.	Width.	Length.	Thickness.
Size, 10-inch. Platform. 12'x12'x1' $\frac{7}{8}$ "	<i>No. of Pieces.</i>								
	Deck planks.	15	12	110	12	120	12	144	8
	Sleepers.	15	12	180	12	120	12	144	8
	Bolts	62	1	24	R'd	48	1	18	R'd
	Nuts	62	2	3	2	48	2	1	2
	Wood Screws	501	$\frac{1}{8}$	180	R'd	224	$\frac{1}{8}$	3	R'd
	Iron Plates	2	54	180	$\frac{3}{8}$	2	48	144	$\frac{1}{2}$
	Planking	15	12	180	2	120	12	144	2

Oak and yellow pine.

Sea-Coast or Stationary Carriages are divided into bar-bette and casemate carriages. Barbette carriages are those in which the gun fires over the parapet. Casemate car-

riages are those in which the gun fires through a port or embrasure of the fortification or battery. Barbette carriages are composed of the gun carriage (1) [Fig. 9], and the chassis (2). The gun carriage has an eccentric axle and wheels for moving the carriage and gun front or rear on the chassis carriage. The top and bottom of the cross-section of the chassis is similar in shape to a double *t*, *T*. The top carriage is similar to the mortar beds, the chassis is firmly attached to the permanent platform by a tongue, and according to whether the pintle is at the front of or directly under the centre of the chassis, it is called a front or center pintle carriage.

The chassis rests on wheels, those near the pintle being eccentric on heavier guns, and the rear wheels called the traverse wheels, run on iron rails. The direction is given to the gun by traversing the chassis to the right or to the left, and the elevation and depression is given by the top carriage, a ratchet post (*d*) being firmly attached to it, through which an iron handspike passes and engages in the notches on the breech of the gun. Between the rails of the chassis are one or two long cylinders, filled either with air or oil. A piston rod connected with the top carriage works in these cylinders and checks the recoil of the guns. The gun carriage and chassis are made entirely of wrought iron. New carriages are being designed for the 12" and 10" rifles.

Projectiles.

Small arm projectiles. Projectiles for small arms are divided into two classes of cartridges: centre-fire and rim-fire. The former is almost exclusively used. A cartridge is divided into four parts (Fig. 10). The shell (*a*), the fulminate (*b*), the charge (*c*), and the bullet (*d*). The shell is formed of a single piece of copper or brass, drawn out, so as to be thin near the bullet, and thick near the base. At the base is placed the fulminate, which is a composition of chlorate of potassa and sulphate of antimony, when the fulminate is placed in a cup in the centre of the base so that the firing-pin strikes the centre directly. The cartridge is centre-fire; when this fulminate is around the

inside of the base it is rim-fire. The charge of gunpowder varies in military rifles, from 70 grains to 90 grains, and in some cases goes even higher. The bullet, made entirely

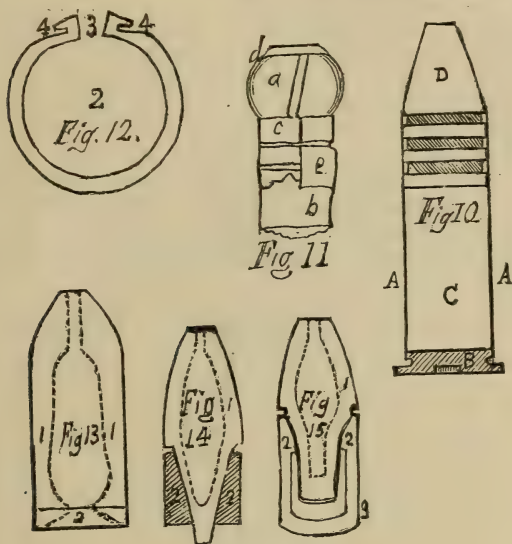


FIG. 20.

of lead, varies in weight from 400 to 550 grains. In order that the bullet may take the grooves or rifling of the gun, there is a small recess cut in the base; the force of the gunpowder acting in this recess expands the lead, and forces the bullet in the grooves; that part of the bullet enclosed by the shell has small grooves called canlines cut and filled with a lubricant, which as the bullet passes along the rifling, lubricates and keeps the grooves of the base clean.

Cartridges for different guns vary in different particulars, but the general principle of construction is the same in all. Cartridges for small arms are made entirely by machinery.

Cannon Projectiles.

All cannon projectiles are either spherical or oblong, and are made either of cast-iron, wrought-iron, steel or bronze, or combinations of these.

Ammunition for field guns is composed of solid shot, shells, case-shot, canister and grape shot. A stand of ammunition is made up of the projectile (*a*), [Fig. 11], the cartridge bag (*b*), the sabot (*c*), the strap (*d*), the cylinder (*e*).

Solid shot are used to produce effect by impact or penetration alone. They are made of cast-iron or steel, and require as a rule heavier charges of powder than shells. The tables give weight of solid shot and shells, etc., and corresponding charges for different guns used in U. S. Service.

TABLES GIVING DIMENSIONS OF WEIGHTS OF CANNON USED IN U. S. SERVICE.

KIND.	Material.	Preponderance.	Weight.	Length.	Length of bore in calibres.	Max. diameter.	Min. diameter.	No. of Grooves.	Width of Grooves.	Width of Lands.	Depth of Grooves.
			<i>Lbs.</i>	<i>In.</i>		<i>In.</i>					
20-in } Smooth	Cast iron	None.	116000	243.5	10.50	64.00	34.00				
15-in } bore.	"	"	49000	190	11.00	48.00	25.00				
12-in } Rifle.	"	"	52000	192	14.00	48.	25.	21.	1.045	.75	.125
10-in }	"	"	40600	180	15.8	41.6	21.	17.	1.150	.70	.850
4½ Rifle. . .	"	300 lbs	3570	133	26.5	15.6	9.00	9.	.97	.06	.075
3.2 Rifle. . .	Steel.	None.	791								
3.2 Rifle. . .	Wrought										
	iron.	40 lbs.	820	72.70	21.15	9.4	6.00	7.	.84	.05	.075
Gatling . . .	Steel.	None.	From								
			120 to								
			250								
Gardner . . .	"	"	125								
13-in. mortar.	Cast iron	"	17120	54.05	2.7						
10-in. mortar.	"	"	{ 7800	47.05 }	{ 3.25						
			{ 1900	28.00 }	{ 2.00						
8-in. mortar.	"	"	1010	22.	2.00						
Coehorn . . .	Bronze.	"	164	16.00	1.51						

TABLE OF SIEGE GUNS AND MORTAR PLATFORMS.

<i>Kind of Platform.</i>	<i>Size.</i>	<i>No. of Sleepers and Size.</i>	<i>No. of Hurter Rails.</i>	<i>No. of Plank.</i>
Siege Gun	15'x9' =	12 inch 9'x5"x3½''	1	36
Mortar	9'x9' =	6 same as above.		21
Rail Platform for Mor- tar.	9'x9'	3 sleepers and 2 rails instead of deck planks.		
Weight of siege gun platform.				2601½ lbs.
Weight of mortar "				1220 lbs.

Shells include not only hollow shot used in guns and mortars, but also grenades. Shells are fired with less charges of powder than solid shot. Shells act by impact and explosion both.

Shells are exploded by means of fuses which are ignited as the shell leaves the gun, and are cut to burn any desired time. In mortar and all round or spherical shells, the principal parts are the body (1) [Fig. 12], the cavity (2), the fuse-hole (3), and the ears (4). The cavity is where the powder that explodes the shell is put; the fuse-hole is for filling the cavity with powder and holding the fuse, and the ears are two notches on the upper surface of the shell, to insert hook with which to handle the shell while loading. The principal oblong shells used in the United States are the Parrott, the Schenkle, the Hotchkiss and Butler shells. The Parrott shell is composed of a cast-iron body [Fig. 13] (1), with brass rings fastened to the base (2). The shells are made to take the grooves in rifled guns by the gases generated by the explosion of the gun-powder pressing against the brass ring, and expanding it in the grooves. The shell is divided into two compartments, the upper one filled with a bursting charge. The shell is exploded by a time or concussion fuse. The Schenkle projectile is composed of a cast-iron body [Fig. 14] (1), the lower part of which is a cone. Around the cone is a ring (2) of papier-mache, which is expanded in the grooves of the gun when fired, and causes the projectile to take the rifling; as it leaves the gun this ring is *blown to pieces*. The Hotchkiss projectile is composed of the body (1) [Fig. 15], the exploding ring of lead (2), and the cup of brass (3). The explosion forces the cup against the lead ring, and causes the shell to take the grooves.

The Butler shell for muzzle-loading guns consists of a shell of iron with a double-lipped ring or band, having a narrow channel or groove in its rear face. The groove separates the ring into two portions, the upper lip and the lower lip. The gases remaining in this channel force the upper lip into the grooves of the bore, and at the same time press the lower lip tightly to the shell, so that the ring cannot slip off.

Oblong projectiles are used in rifled guns only, and are caused to take the grooves of the bore by one of three methods: 1st, the expansive method, where the force of the charge, acting on the ring or soft metal sabot, presses it into the grooves. 2d, the compressive system, used in breech-loading guns only, where the shell fits into a chamber slightly larger than the bore, and is forced through the bore. 3d, the studded or flanged system, in which the shell is fitted with studs or flanges that fit in the grooves.

Case-shot is a collection of small shot or projectiles enclosed in a case; the shell is broken by the shock of discharge, and scatters the projectiles in a volley. Case-shot are used against masses of troops at short distances. Case-shot are either canister, or spherical case. Grape-shot consists of nine balls arranged in layers of three balls each. The top and bottom (1 and 2) [Fig. 16], are thin iron plates, and (3) and (4) are iron rings. The whole stand is held together by a spindle of iron and a nut (5) passing through the centre of the plates. Canister shot consist of 27 small cast-iron balls arranged in 4 layers, the top of 6, the others of 7 each. In field gun canister shot there are 48 balls. The case is a tin cylinder closed at the bottom by a thick cast-iron plate, and at the top by a thin plate of sheet iron. The ends of the case are cut into strips and lap over the plates holding them in place.

Spherical Case or shrapnel consists of a thin cast-iron spherical shell, filled with round musket balls. Melted sulphur or resin is poured into the shell, filling all the interstices. (17) shows the *spherical case* and *spherical shot*.

Muzzle-loading cannon are fired by means of friction-primers. Primers are composed of two brass tubes (Fig.

18) soldered at right angles to each other. The upper tube is the shorter and smaller, and contains the fulminate of friction powder. A wire with a roughened edge passes through the friction powder, and the outer end is turned over into a loop. The long tube is filled with fine rifle powder; as the roughened wire is jerked out of the tube it ignites the friction powder, which in turn ignites the rifle powder.

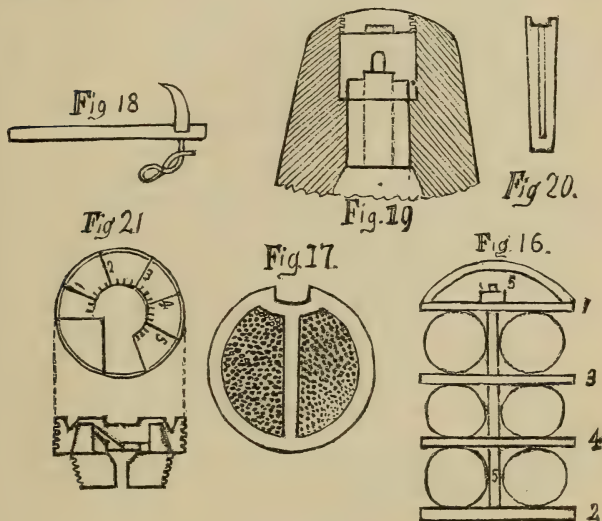


FIG. 21.

Shells are exploded by means of fuses. Fuses are divided into three classes, percussion, concussion, and time fuses. A percussion fuse explodes by the striking of the projectile against an object. In the top of the shell is placed a plunger (1) [Fig. 19], having a nipple (2), and a channel (3), filled with fine powder. A percussion cap is placed in the nipple, and a nut or cap secured into the opening of the shell (4). When the shell strikes, the plun-

ger is driven by the impact with such force against the nut as to explode the cap, which ignites the fine powder, which in turn ignites the charge in the shell.

A concussion fuse is composed of a wooden plug and a paper fuse. The case is made of paper, and is filled with the fuse composition. A long cavity is formed in the lower part of the composition, and in this cavity is inserted a spindle of plaster of Paris, moist, and a long needle is inserted in it. As the composition is ignited at the top and burns away, it leaves the plaster column unsupported when the shell strikes. The shock breaks the column and the flame of the composition falls on the bursting charge and ignites it.

There are three kinds of fuses used in the U. S.—the Mortar fuse, the Bowman fuse, and the sea-coast fuse. In the mortar fuse (Fig. 20), the case is made of wood, through which a bore runs nearly to the bottom; the bore is filled with a composition which burns at a fixed rate; at the top the bore is slightly enlarged, and a priming of unsealed powder is placed there, which is protected by a cap of waterproof paper; the exterior of the case is marked off in inches and tenths, corresponding to the rate of burning. The sea-coast fuse is distinguished from the mortar fuse by having a metal covering constructed so as to prevent the water from extinguishing the burning composition.

The Bowman fuse is used in field and siege projectiles; it is made as represented in Fig. 21, of an alloy of tin or lead in the form of a circular disc. A slim thread is cut in its edge, by which means it is fastened in the shell; the upper surface is marked by the recesses and a graduated arc; beneath the upper face lies a circular groove filled with unsealed powder, the graduations on the arc corresponding to the time of burning of the powder in the groove beneath it; the only outlet to the powder groove is directly under the jut of the arc; at that point it connects with the bursting charge.

Rockets are used in warfare, but their use at present is nearly obsolete, except when dynamite is the explosive.

The personal outfit of the soldier, excluding his arms proper, is as follows :

The equipment comprises the knapsack, belts and plates, haversack, canteen, cartridge-box and bayonet-sabbard. The implements of the infantry soldier are his gun, bayonet, bayonet-sheath, and shell-extractors. The cartridge-box is a leather case carried on a belt fastened around the waist ; it is divided into compartments for holding cartridges ; the box now in use holds 20 cartridges. Two boxes are provided for each soldier.

A field-belt, made of strong pliable material woven in one entire piece, with loops for holding cartridges, has lately been adopted ; it holds from 40 to 70 cartridges, depending upon the length of belt. This is used exclusively in campaign.

The equipments of Artillery are, for field service, cartridge-pouches, primer-pouches, gunner-pouches, and pendulum hausse, and these are carried usually in the limber-chest of the piece ; beneath the piece are the sponge and rammer staffs, wormer, bucket and handspikes. In siege guns, a box called pass-box is used instead of pouches for carrying the cartridges. In sea-coast cannon and mortars, special sights and handspikes are used in addition to the above-named implements ; and in mortars, pointing cords and stakes, quadrant and spirit level.

The nomenclature of Artillery and Cavalry harness, and saddles, etc., their proper use and preservation, may be found in the "Tactics" adopted for the use of those arms, as well as all manuals, drills and exercises.

Gunpowder.

The principal explosives used in warfare are gunpowder, gun-cotton, and dynamite or nitro-glycerine.

Gunpowder is composed of saltpetre, charcoal, and sulphur. In the U. S. the following proportions of each are used :

Saltpetre	75 parts.
Charcoal	15 parts.
Sulphur	10 parts.

Charcoal is the combustible ingredient in gunpowder, while the saltpetre furnishes oxygen necessary to make rapid combustion, and change the whole into a gas. Sulphur adds intensity to the flame, renders the mass less liable to absorb moisture, and increases the column of gas.

There are five kinds of gunpowder in the U. S. service, viz :

Hexagonal, or mammoth, for largest guns.

Cannon, for small sea-coast guns and mortars.

Mortar, for siege guns and field guns.

Musket, for small arms and rifles.

Rifle, for pistols.

The sizes of gunpowder are tabled by means of sieves of sheet brass, with round holes, the diameters of which are as follows :

	<i>Large Hole.</i>	<i>Small Hole.</i>
Hexagonal	0.9 in.	0.6 in.
Cannon	0.31 "	0.27 "
Mortar	0.1 "	0.07 "
Musket.	0.6 "	0.035 "
Rifle. All smaller than the above and not mealed.		

The weight of a cubic inch of gunpowder is 2 oz., and a cubic foot 54 lbs.

Gunpowder is packed in barrels of 100 lbs. each. The heads of the barrels are painted black, and the contents are marked in white oil colors—the number of the barrel, the name of the manufacturer, kind of powder, mean initial velocity, and pressure per square inch. Gunpowder is kept in magazines especially built for it, safely. To keep it well preserved, the circulation of air must be well kept up, under the flooring as well as above, and in dry weather the magazine should be opened whenever the air outside is cooler than that inside. Chloride of calcium placed in open boxes will absorb the moisture in the magazine. Whoever enters the magazine should carry no metal about him; should take off his shoes, and put on thick woolen socks.

Gun-Cotton.

Gun-cotton is prepared by mixing three parts of sulphuric acid to one part of nitric acid, and, when the mixture has cooled down, putting clean rough cotton in it, in an open state. When soaked, the acid is poured off, and the cotton tightly pressed and then covered for thirty minutes, after which it is thoroughly washed in running water to remove all acid. It is then washed in an alkaline solution, and then left to dry. Gun-cotton, properly made, will not explode under 380° F. It is a very explosive substance, and very powerful. It leaves no stain or mark, but little smoke. It is used principally in torpedoes and shells, as it acts too quickly to be used in fire arms. It is kept in a compressed state in little cylinders, 3' long by 25" diameter, about 3 dozen in a box. The box is filled with water. It looks like raw cotton in appearance, but is more brittle, and harsher to the touch.

Nitro-glycerine is made by mixing glycerine and nitric acid at a low temperature. When fresh it has a creamy white color, but by standing it becomes colorless. Its taste is sweet and odor aromatic. When made properly of pure material, it is perfectly safe to handle, as it is not sensitive to percussion or friction unless violent; but made of impure materials, it easily decomposes, and while decomposing it is extremely sensitive, often exploding by the slightest concussion, even when unconfined. It is transported and kept in tin cans of about 45 lbs. each, and frozen. Water does not affect it, and it will not mix with water. When mixed with various substances it is known as dynamite, dustine, explosive gelatine, Rend Rock, giant powder, etc. The force of pure glycerine is estimated as about ten times that of the best gunpowder.

Pure nitro-glycerine is almost colorless, slightly yellowish, $1\frac{1}{2}$ times as heavy as water, dissolves in wood alcohol, from which it may be precipitated by adding water. It freezes at 40° F. Freshly made nitro-glycerine requires, however, a lower temperature. It is difficult to explode while frozen, and it is therefore kept, when not wanted for use, in that state. It is poisonous, and when handled or touched,

causes severe headache. Black coffee is a partial antidote.

Dynamite is the most commonly used of all the combinations of nitro-glycerine. It is made by the absorption of nitro-glycerine in kieselguhr, a white, porous, soft powder, resembling flour. Kieselguhr is a silicious earth, found in New Hampshire and Hanover, and when of good quality, it is about one-fifth the weight of flour, and absorbs three times its weight of nitro-glycerine without becoming wet. When well made, dynamite in small quantities will burn, but in large quantities it must be kept from the fire or it will explode.

Dynamite is made in two qualities, known as *No. 1* and *No. 2*. Dynamite *No. 1* is manufactured by the Government, and is pure and safe to handle, extremely powerful and very expensive. Dynamite *No. 2* is known by various other names, as *Giant Powder*, *Rend Rock*, etc. In these mixtures the absorbent agent is usually an active agent also, and consists of a mixture of saltpetre and charcoal with other substances; sometimes *Gun-Cotton* is used. The quantity of nitro-glycerine in *No. 2* is usually small. The great expense of the material and manufacture, and the danger attending it, renders the manufacture of Dynamite *No. 1* possible only to governments. It is used in torpedoes, etc., charge amounting to 500 lbs. at times. When any of the free acid is left in nitro-glycerine, the mixture is dangerous in the extreme. When dynamite or nitro-glycerine in any of its forms turns slightly green, spontaneous degeneration or decomposition has set in, and the mixture must be at once destroyed and without handling.

Preservation and Care of Arms and Ammunition.

As soon as possible after using, all small arms should be cleaned, after dusty or rainy marches. The barrel is thoroughly wiped out, and an oiled rag run through it; if any moisture has settled on the locks or breech mechanism, the gun or pistol should be dismounted and the parts cleaned and oiled. The stocks should be oiled frequently.

Arms should be covered by a curtain or door, when in barracks or quarters, to keep the dust off. All spare parts of guns, pistols, etc., are kept packed away in boxes in the Armory, and every box is marked with the amount and nature of its contents; "20 rifles with bayonets," etc. Cannon should be lacquered once a year with a lacquer consisting of coal-tar and turpentine. The muzzles of guns mounted are kept depressed, and tompions are inserted. A vent plug should be inserted also, and once a month the boxes should be sponged dry, and oiled. In all breech-loading pieces the breech mechanism is kept oiled and cleaned continually. All sponges, rammers, worms and ladles, etc., etc., are placed in racks. Projectiles for smooth-bore guns are lacquered, and for rifled guns oiled only. Fuses and friction primers are kept in their original packages until used, and stored in dry and safe places. All implements of brass are kept spread out on shelves, and clear alcohol or vinegar and rotten-stone and whiting are used for cleaning brass articles. Oil and rotten-stone and canvas cloth for iron or steel implements.

CHAPTER VII.

TARGET PRACTICE.

RIFLE AND CARBINE FIRING.

SKIRMISH FIRING.

TARGET PRACTICE.

The instruction in rifle, carbine and pistol firing receives at the present time more attention than any one particular branch of the soldier's education.

Four months in the year is now the period of the practice season, and these months are designated by the Department Commander for the various posts in his department, according to the best season at each post for shooting on outdoor ranges.

During the winter season the troops practice firing at reduced targets, which are made of a size so small that they can just be distinctly seen. This practice is called *gallery practice*—the troops either firing in their barrack-rooms or in galleries prepared for the purpose. An iron plate, 30x30 inches and $\frac{1}{2}$ inch thick is used; on this is painted the target, 7 inches high and 6 inches wide, with a circular bull's eye, 1 inch in diameter; and 2 other circular divisions, 3 inches and 5 inches in diameter respectively for 50 feet ranges. If the gallery be 75 feet long, these dimensions should be increased one-half. If 100 feet long, they should be doubled. A shot in the bull's eye will be scored 5; in the next ring, called the center, 4; in the other, called the outer, 3; and a shot in the remainder of the target, called the outer, 2. About $3\frac{1}{2}$ grains of powder, and a round ball, which weighs 140 grains, is used. The service shells can be used for making these cartridges about 200 times.

After the troops have had their season of gallery practice, and the recruits have received all necessary preliminary instruction, they are taken upon the *Range* and practiced at various distances, in order to qualify as 2d and 1st class men, marksmen, and sharpshooters. All commence at 100 yards, and fire at least four scores of five shots each; those that are able to make 50 per cent. with any four

scores of five *consecutive* shots are advanced to 200 yards;* this latter is the first range however, at which *qualifying* scores can be made, and the men are advanced from it as follows :

For the *second class* a total of 50 is required at each of the ranges, 200, 300 and 500 for troops armed with the rifle, and totals 50, 48 and 45 at each of the same ranges respectively for those armed with the carbine.

For the *first class*, a total of 65 is required at each of the ranges 200, 300 and 500 yards for troops armed with the rifle, and totals of 65, 60 and 55 at each of the same ranges respectively for those armed with the carbine.

For a *marksman* a total of 80 is required at each of the ranges 200, 300, 500 and 600 yards for those firing with the rifle; and totals of 80, 75, 70 and 65 at each of the same ranges respectively for troops armed with the carbine.

For a sharpshooter a total of 90 is required at each of the ranges 200, 300 and 500 yards; a total of 85 at each of the ranges 600 and 800 yards, and a total of 80 at 1,000 yards; these scores for cavalry troops may be made with either the rifle or carbine.

For these ranges there are three targets furnished, called A, B, C. Target A is used for all firing up to and including 30 yards; it is 6 x 4 feet, with an elliptical bull's eye 10 inches high by 8 in breadth, the center to be 30 x 24 inches, the inner to be 50 x 40 inches. Target B is used for all ranges above 300 yards and to include 600 yards; it is 6 feet square, with an elliptical bull's eye 24 inches high and 18 inches broad; the center to be 48 x 36 inches, the inner to be 72 x 54 inches. Target C is for all ranges over 600 yards, and is 6 feet high by 12 feet broad; has an elliptical bull's eye 45 x 30 inches, the center 72 x 51, the inner 72 x 72, square in shape. See "*Blunt's Rifle and Carbine Firing.*"

The education of the soldier in individual firing, as thus conducted, is merely preliminary to the instruction of the company, as a body, in firing (1) *by file*, (2) *by volley*, and

* Marksmen of previous years begin at 200 yards.

(3) *as skirmishers*, under conditions as nearly as possible representing those found in actual service.

The first consists of firing by file (each man firing 5 shots) at 200 yards standing and 300 yards kneeling. The "useful effect" is shown by computing, from the number of hits actually made and the time required, the number of hits that would have been made by 100 men in one minute. The second consists of five volleys at 200 yards standing and five each at 500 and 800 yards lying down. The efficiency of the company is shown by the percentage of hits. The target for both kinds of practice consists of sixteen figures representing men standing, placed in line one yard apart. (Target H, Plate XVIII., Blunt's "Rifle and Carbine Firing.")

The target for company skirmish firing is made up of figures placed alternately representing men kneeling, standing and lying down; the number of figures being equal to the number of skirmishers. (Target G, Plate XVIII.)

"The skirmish line will be formed, with intervals of one yard between the files, as prescribed by the infantry tactics (except that there will be no reserve). For organizations armed with the rifle the line will be formed at about 600 yards from the targets; those armed with the carbine will use it for this practice and form skirmish line at about 500 yards from the targets." (Par. 328.) "At the proper commands for manœuvering skirmishers they will be advanced, at quick time, until a point a little more than 200 yards from the targets is reached, when they will be withdrawn, at double time, to their first position. During the advance 5 halts will be made. * * * The same rule will govern during the retreat." (Par. 326.) The commands "*Skirmishers HALT*," "*Commence FIRING*," and "*Cease FIRING*," are so given as to allow *six* seconds for estimating the distance and adjusting sights, and *fifteen* seconds firing interval, during which each man fires two shots.

The general merit of the company in rifle firing is then determined by considering its record in both the individual target practice and the company skirmish firing.

To stimulate marksmen in their endeavors to excel, the

War Department annually awards twenty-four gold and thirty-seven silver medals to winners of places on the Department, Division and Army teams. The competition for places on the Department team is open to one enlisted man from each company and two commissioned officers from each regiment serving in the Department. The several Department teams of each Division are then assembled, and the members compete for places on the Division team. The members of the Army team (12 in all) are, every two years, selected by the Division Commanders and assembled at some designated military post for the final competition for the Army team medals.

For forms of Reports of Target Practice see pp. 323-328.

REPORT of the Target Firing of Co. "G," 30th Regiment of Infantry,
for the month of July, 1885.

(See Part IV., Chapter IV., Instructions in Rifle and Carbine Firing.)

Names and Rank of Officers and Men, excluding Sharpshooters and Marksmen, firing less than 50 shots in regular practice during the month.	Number of Shots Fired.	Class at End of the Month.	REASONS FOR THIS LIMITED PRACTICE.
Henry Fry, 1st Lieut	30	2d	Absent with leave, July 12 to 31.
Nicholas Schimmelfinig, Private .	25	3d	In confinement, July 8 to 31.
Hozeas Demorest, Private	10	3d	Sick in Hospital, July 5 to 31.
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INDIVIDUAL CLASSIFICATION AND FIGURE OF MERIT OF THE COMPANY AT THE END OF THE MONTH.

None	Sharpshooters	×	200	
Five (5) .	Marksmen	×	100	500
Twenty-nine . (29) .	First-class men	×	60	1740
Ten (10) .	Second-class men	×	30	300
Six (6) .	Third-class men	×	10	60
None	Present not firing	×	0	
50		)		2600
Individual Figure of Merit				52

Average number of practices per man in individual skirmish firing Six (6)
Number of practices in Company skirmish firing Two (2)

I certify, on honor, that the regular practice has in all cases been conducted in scores of five shots each, and under the supervision of a commissioned officer; that the requirements of the Instructions in Rifle and Carbine Firing for the United States Army, with reference to sighting shots, to limitation in the number of scores, and to the methods of marking and scoring, have been fully complied with; that such additional precautions as seemed necessary to secure an honest record and correct report based only upon the results actually attained have also been taken, and that I am therefore fully assured that this report is entirely correct.

HENRY FRY, 1st Lieut.
JULIUS EELS, 2d Lieut.

WILLIAM BOUTELLE,
Capt 30th Infantry,
Commanding Company.

REPORT
OF THE
TARGET FIRING
OF
Co. "G," 30th Reg't of Infantry.
For the month of July, 1885.

First Indorsement.

*Fort Del Norte, I. T.,
August 1, 1885.*

Respectfully forwarded to the Inspector of Rifle Practice, Department of the Missouri.

I have examined the methods of conducting practice and of marking and scoring followed in this Company, and believe this report to be correct.

SELOS B. DACKETT.
*Colonel 20th Cavalry,
Commanding Post.*

REPORT
OF
SHARPSHOOTERS AND MARKSMEN

OF

*Co. "G," 30th Reg't of Infantry,
for the month of July, 1885.*

First Indorsement.

*Fort Del Norte, I. T.,
Aug't 1, 1885.*

Respectfully forwarded to the Inspector of Rifle Practice, Department of the Missouri.

I have examined the methods of conducting practice, and of marking and scoring followed in this Company, and believe this report to be correct

SELOS B. DACKETT,
*Col. 20th Cavalry,
Commanding Post.*

ANNUAL REPORT
OF
TARGET FIRING

OF
*Co. "G," 30th Reg't of Infantry,
For the year 1885.*

First Indorsement.

*Fort Del Norte
January*

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ment of the Missouri.

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and scoring followed in this company, and believe this
correct.

SELOS B. DAVIS
*Colonel 20th
Command*

1. V
2. H
3. J
4. E
5. J
6. H
7. H
8. H
9. T
10. V
11. M
12. E
13. E
14. M
15. A
16. D
17. M
18. P
19. A
20. B
21. H
22. E
23. H
24. E
25. T

D

Oct. 1

REPORT of Target Firing of Company "G," 30th Regiment of Infantry, for the year 1885.
(See Part IV., Chap. IV., Instructions in Rifle and Carbine Firing.)

NAMES.	RANK.	TOTAL OF BEST FOUR SCORES.						TOTAL.	ARM USED IN PRACTICE.	CLASSIFICATION.	NAMES.	RANK.	TOTAL OF BEST FOUR SCORES.						TOTAL.	ARM USED IN PRACTICE.	CLASSIFICATION.
		200 yds.	300 yds.	500 yds.	600 yds.	800 yds.	1,000 yds.						200 yds.	300 yds.	500 yds.	600 yds.	800 yds.	1,000 yds.			
1. William Boutelle	Capt.	80	81	80	80			321		Marksman.	26. William Dunellen	Private . .	80	60	74	72			286		2d Class.
2. Henry Fry	1st Lieut.	80	80	80	75			315		1st Class.	27. James Du Bois	"	60	80	72	74			286		2d "
3. Julius Eels	2d Lieut.	75	70	71	71			287		1st Class.	28. James Englehardt	"	72	74	60	80			286		2d "
4. Herman Knowles	1st Serg't.	80	80	80	80			320		Marksman.	29. John Fitch	"	60	80	80	80			300		1st "
5. James H. Williamson	Serg't	82	85	84	82			333		"	30. Henry Furlong	"	80	80	60	80			300		1st "
6. Earnest Devine	"	85	82	82	82			331		"	31. Ira French	"	72	74	80	60			286		2d "
7. Hiram Krebs	"	60	50	62	60			232		2d Class.	32. Arthur Green	"	74	80	60	72			286		2d "
8. Horace Knight	"	80	80	80	80			320		Marksman.	33. Burton Gabriel	"	60	80	80	80			300		1st "
9. Thomas Plaisted	Corporal	80	82	82	82			326		Marksman.	34. Gilmore Galbraith	"	80	60	80	80			300		1st "
10. William Muir	"	60	50	62	60			232		2d Class.	35. Nicholas Henry	"	40	70	60	40			210		3d "
11. Marvin Conduit	"	60	50	60	62			232		"	36. David Hurst	"	72	74	60	80			286		2d "
12. Elbert Manning	"	80	80	80	80			320		Marksman.	37. Benjamin Hall	"	60	80	74	72			286		2d "
13. Esau Birthright	Trumpeter.	50	60	62	60			232		2d Class.	38. Byron Jerome	"	80	74	60	72			286		2d "
14. Moses Mount	"	60	62	60	50			232		"	39. Earnest Kromer	"	70	40	40	60			210		3d "
15. Archibald Holden	Artificer	80	80	80	60			300		1st Class.	40. Henry Kirstman	"	74	80	60	72			286		2d "
16. Darius Adams	Private	80	60	74	72			286		2d Class.	41. Jabez Larz	"	80	80	80	82			322		Marksman.
17. March Bierdstadt	"	60	70	40	40			210		3d "	42. Thomas Loblach	"	75	71	71	70			287		1st Class.
18. Peter Bolls	"	70	60	40	40			210		3d "	43. Martin Mountebland	"	60	50	62	60			232		2d "
19. Arthur Bing	"	60	40	70	40			210		3d "	44. James McDermott	"	50	60	60	62			232		2d "
20. Benjamin Bradshaw	"	80	74	60	72			286		2d "	45. Thomas Mervin	"	70	40	60	60			210		3d "
21. Henry Carter	"	60	40	70	40			210		3d "	46. Henry Melrose	"	40	60	70	60			210		3d "
22. Evelyn Cruikshanks	"	80	60	80	80			300		1st "	47. Eathem Prime	"	50	62	60	60			232		2d "
23. Hosea Cuthbert	"	60	40	70	40			210		3d "	48. Moses Rose	"	62	50	60	60			232		2d "
24. Ellis Darius	"	40	60	70	40			210		3d "	49. Edgar Sautelle	"	80	82	81	80			323		Marksman.
25. Thomas Darrow	"	70	40	60	40			210		3d "	50. Henry Trout	"	50	62	60	60			232		2d Class.

BEST SINGLE PRACTICE IN-

COMPANY SKIRMISH FIRING.										COMPANY FIRING BY FILE.							COMPANY VOLLEY FIRING.						
DATE.	Number Available for Practice.	Number Firing.	Per Cent. of those Firing to Number Available.	Number of Shots Fired.	NUMBER OF HITS.				Per Cent. of Possible Score.	REMARKS.	DATE.	RANGE.	Number Firing.	Number of Shots Fired.	Time Required.	Number of Hits.	Useful Effect.	DATE.	RANGE.	Number Firing.	Number of Shots Fired.	Number of Hits.	Per Cent. of Possible Score.
					Standing Figures.	Kneeling Figures.	Lying Figures.	Total.															
Oct. 10, '85	27	22	80	440	60	120	70	250	57	Bad light	Oct. 2, 1885	200	32	160	1'-30"	160	182	Oct. 7, 1885	200	38	190	100	43
. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	" " . . . . .	300	32	160	1'-45"	80 . . . . .	. . . . .	" " . . . . .	500	38	190	85 . . . . .	. . . . .
. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	" " . . . . .	800	38	190	60 . . . . .	. . . . .

SUMMARY OF CLASSIFICATION AND FIGURE OF MERIT.			
None	Sharpshooters	200 =	
9	Marksmen	100 =	900
9	First-class Men	60 =	540
21	Second-class Men	30 =	630
11	Third-class Men	10 =	110
None	Present not fixing	0 =	4
			2180
50 . . . . .	) Individual Figure of Merit =		44
Figure of Merit for Skirmish Firing			50
2)			94
General Figure of Merit =			17

I certify, on honor, that the regular practice has in all cases been conducted in scores of five shots each, and under the supervision of a commissioned officer; that the requirements of the Instructions in Rifle and Carbine Firing for the United States Army with reference to sighting shots, to limitation in the number of scores, and to the methods of marking and scoring, have been fully complied with; that such additional precautions as seemed necessary both in the regular practice and in the company skirmish firing to secure an honest record and correct report, based only on the results actually attained, have also been taken, and that I am therefore fully assured that this report is entirely correct.

HENRY FRY, 1st Lieut.
JULIUS EELS, 2d Lieut.

WILLIAM BOUTELLE,
Capt. 30th Infantry,
Commanding Company.

NOTE.—If any member of the company should be in confinement, absent or sick, for more than two of the practice months of the year, he does not fire, and the fact should be noted on the form opposite his name. Also discharges or desertions.

ANNUAL REPORT
OF
TARGET FIRING
OF

*Co. "G," 30th Reg't of Infantry,
For the year 1885.*

First Indorsement.

*Fort Del Norte, I. T.,
January 2, 1886.*

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SELOS B. DACKETT,
*Colonel 20th Cavalry,
Commanding Post.*

CHAPTER VIII.

MILITARY SIGNALLING.

MILITARY SIGNALLING.

The object of military signalling is to transmit intelligence by either sight or sound, without the knowledge of the enemy. It is one of the most important branches of the military service, as by it communication is maintained between the different parts of the same army, or different armies, and messages, orders and intelligence of any kind can be transmitted quickly and accurately to whatever point desired.

Signals are of two general classes :

1st. Permanent signals are those kept in sight or hearing for some time, such as a flag flying from a mast, or a whistle blowing, or bell ringing, for some minutes.

2d. Transient signals are those kept in sight or hearing but a short time, as a single wave of a flag or a report of a gun.

Signalling in the U. S. Army is conducted by either the telegraph, flags, lanterns, torches or heliograph.

The code of signals for the service is made up of combinations of elementary signals, dots and dashes. The alphabet and digits are both formed by combination of these signals. The code is first learned by means of words, after which the signal flags are used, and then follow the lanterns, or torches, for night signalling.

Signal flags are of red bunting 4 feet square, with white centers 16 inches square, or they may be of white bunting, with red centers, of the same size as the red flag. Strings in couples are attached to the flag on that side which is to fasten it to a pointed staff. The pole or staff is from 8 to 12 feet in length, and is pointed for convenience in carrying, and divided into three joints. After the flag is fastened to the staff, the flagman holds the staff in a vertical position with both hands, in front of the center of the body ; the left hand grasps the lower end or butt

of the staff, and the left forearm is horizontal, the right hand grasps the staff about 18 inches above the left hand. This is the first position [see Fig. 22]. The elementary signal dot “.” is made by carrying the staff over to the right in a vertical plane, till it nearly touches the ground, and then bringing it to the vertical position again; the movement must be made quickly, and the end of the staff and flag describe an elliptical curve, to the rear, as they approach the ground, in order that the flag may be kept fully spread out during the movement [see Fig. 22]. Elementary signal dash “—” the flag is carried quickly to the left in the same manner. To make the elementary signal “front,” the flag is swung in a vertical plane directly to the front, until it nearly touches the ground, when it is immediately brought to the first position again. Thus to make “a,” which is denoted in the signal code by a dot and dash, make one distinct and complete swing of the flag to the right, then the same to the left, and bring the flag to a vertical position.

Night signaling is carried on by means of lanterns or torches. The equipments consist of a pointed staff, 12 feet long, at the upper end of which is attached, by means of clamp screws, a torch. This is called the “*flying torch*,” and is a copper cylinder, 18 inches long, 1½ inches in diameter, and is filled with turpentine.* On the ground, about 18 inches in front of the signal man, is placed another torch, called the “*foot torch*.” This is 18 inches long, 2 inches in diameter, and is also copper. Both torches have extinguishers. In signalling, the front torch is kept burning all the time, and is the point of location or reference. When messages are to be sent, the flying torch is lighted from the foot torch, and the message sent in the same manner as by the flag. When completed, the flying torch is extinguished. All the motions, positions, etc., with the torch are the same as with the flag. If the turpentine in the foot torch gives out, a small fire should

* NOTE.—Kerosene oil of 150° test, water white, is also used, and is preferable to turpentine.

be at once be made of leaves, twigs, grass, etc., etc. The telegraph is used in military signalling, with the same code as the flag and torch. It and the telephone are too well known to need description.

The heliograph or sun-mirror is used to transmit messages to great distances, and in places where the formation of the country does not permit effective use of flags. It consists of a mirror of polished steel or glass, and when used is mounted on a tripod. By means of tangent screws it can be adjusted so as to flash the sun's rays in any direction. If the messages are to be sent in a direction opposite the sun's rays, then a second mirror is used, and placed opposite the first, the rays striking the first one reflected on the second, and thrown by it in the direction required. The A. and N. code is used with the heliograph.

In signalling with torches or heliograph, the signals are made in the same manner as with the electric telegraph key, except that the spaces between the elements of a letter are slightly larger. "To call a station," turn a steady flash on the station, and keep it there until answered by a steady flash. Both stations must then adjust nicely on each other's flash. When the adjustment is satisfactory, the calling station will cut off its flash three seconds, and then "acknowledge." Signals are then sent as by the flag, except that a flash of four seconds is made whenever "front" would be used by the flag. Should the receiver break the message, he does so in same manner as with flag, but the sender answers with a steady flash. No abbreviations will be used in the body of the message.*

The code used is designated the Army and Navy Code for visual signalling, and is the same as the European Morse code of telegraph signals. At the end of each word, abbreviation or conventional signal, a "front" motion is made. No pause is made between the motions required

*NOTE.—If the receiver sees that the sender's mirror needs adjustment, he will turn a steady flash on the sender until answered by a steady flash. Then the receiver will "acknowledge," and the sender will resume his message, beginning with the word broken into.

for any single letter. The European Morse code is as follows :

A - - —	J - - — — —	S - - -
B — - - -	K — - - —	T —
C — - - — -	L - - - - -	U - - —
D — - -	M — — —	V - - - —
E -	N — -	W - — —
F - - — —	O — — — —	X — - - -
G — — — -	P - — — -	Y — - — —
H - - - -	Q — — — —	Z — — - -
I - -	R - — -	

These are read : A - —, as dot, dash ; B — - - -, dash, dot, dot, dot, etc., etc.

NUMERALS.

1	2	3	4	5
— — — — —	— — — — —	— — — — —	— — — — —	— — — — —
6	7	8	9	
— — — — —	— — — — —	— — — — —	— — — — —	
0				
— — — — —				

PUNCTUATION.

Period (.) - - - - -

The following abbreviations may be used in the body of a message : A—after, B—before, C—can, H—have, N—not, R—are, T—the, U—you, UR—your, W—word, WI—with, Y—why.

Numbers which occur in the body of a message must be spelled out in full ; dates and other numbers not in the body of the message will be signaled by numerals. A “front” motion will not be made between separate numerals of a number, but only after the last figure. The numerals may be used between stations having the Naval Signal Books.

To transmit a message, we will suppose a party consisting of two men, one holding a flag and the other a notebook and pencil, at a station, “A.” They wish to call up Station “B.” “To call” a station, the flagman signals

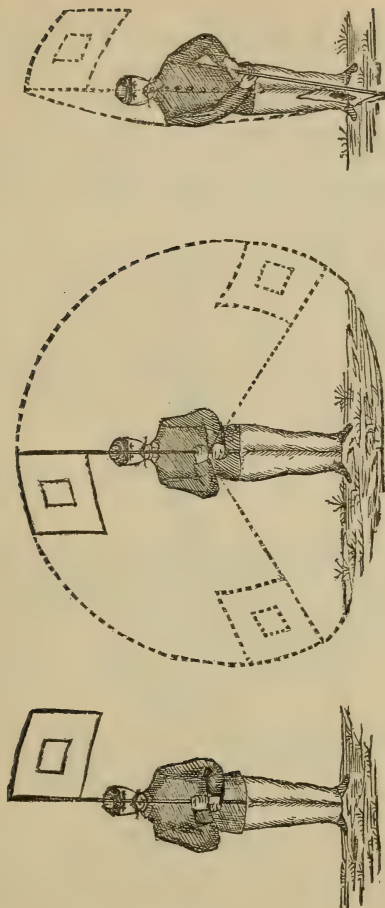


FIG. 22.

its initial or "call" letter "B," — - - until answered. If the call letter is unknown, signal the letter "A" until acknowledged. "To acknowledge," signal the letters "O. K.," followed by "Front," and initial or call letter. After "B" has acknowledged, "A" answers "O. K.," and then signals his message according to rule. At the end of each sentence, and of the address, both at heading and ending of message, he signals period (.), followed by a "front." Should "B" fail to catch a word, he breaks the message by signaling "A" till acknowledged by A. To start again, he signals "G. A.," followed by "Front," and the last word received correctly; or, if no word was received correctly, he signals "R. R.," followed by "Front." "A" then repeats all. If "A" makes an error in sending, he signals six dots (- - - - -) very rapidly, followed by a "Front," and then resumes the message, beginning with the last word sent correctly.

Just before reaching the name of the sender, "A" signals "signature follows," by the word S I G, followed by "Front."

To signal "cease signaling," signal the word "close" followed by three "fronts." The communicating station will "acknowledge" followed by *three* "fronts."

For convenience, the numerals are also used to signal the following sentences:

1. "Wait a moment." 2. "Are you ready?" 3. "I am ready." 4. "Go up higher." 5. "Come down lower." 6. "Move to your right." 7. "Move to your left." 8. "Use other flag." 9. "Use larger flag, and longer staff." 10. "Your flagman is not facing me squarely."

Cipher Signals.

The figure represents the cipher disk. It consists of two disks moving on a common axis, the larger one having the capitals reading in the direction the hands of a watch move, and the smaller disk reading the reverse. An arrow head pointing to small *a* is marked on the

smaller disk. To use it, if there be no previous agreement, the letter "a" of the inner circle will be set opposite



site the letter "A" on the outer circle. The message being written in plain English; by using letters on the outer circle, it is sent by using the corresponding ones on the inner circle. The message is deciphered by writing down from the letters received, the outer circle letters corresponding. By preconcerted agreement, any letter may be chosen on the inner circle as the key letter to be set opposite the "A" on the outer circle; or countersign words may be used, in which case the key-letter is changed as often as there are different letters in the countersign.

In all cases, the unciphered message should be divided into groups of letters, four letters in each group ; and when signaling with flag or torch, the signal "*front*" for end of word should be made at end of each group.

CHAPTER IX.

MILITARY LAW AND COURTS MARTIAL.

MILITARY LAW AND COURTS MARTIAL.

I. The Law of War.—The law of war in the United States is made up of the rules and principles which define military authority and jurisdiction in time of war, or like emergency, over person or property, either within a disturbed locality, or wherever the public safety may demand. Such rules and principles are derived from International Law, from certain legislative provisions, and from authorized precedents as established by acts and orders of military commanders, or of the Executive authority, and depend for their constitutionality upon the war powers of Congress and the Executive.

In its application, the Law of War affects the rights, obligations, and intercourse of persons upon the theatre of war, whether subjects or enemies, [armed or otherwise,] also of persons resident, or simply present, as well as all, otherwise under military government or martial law. It may supplement or supersede the laws of the land, and even the Constitution. It authorizes the taking of private property, but only in case of absolute necessity or immediate exigency; severs all business and social relations and interchange between the members of the opposing armies; suspends pecuniary obligations and forbids new business relations; prescribes the civilized nature of warfare and forbids the use of illegitimate weapons as well as wanton or malicious destruction of private or public property; especially such institutions as churches, colleges, asylums, museums, etc.—also firing of towns.

It sanctions the putting to death of those who abuse the flag of truce, or are guilty of a breach of parole; but prescribes that prisoners of war shall be humanely treated. The general remedy for breaches of the law of war, by a belligerent, is *retaliation*; but offenders may be tried and

punished for all infractions of the law of war. This punishment of individuals is generally exercised by military tribunals or commissions usually appointed under military government or martial law.

II. Military Government and Martial Law.—Chief Justice Chase defines military government as “military jurisdiction to be exercised by the military commander under direction of the President, in time of foreign war without the boundaries of the United States, or in time of rebellion and civil war within States and districts occupied by rebels treated as belligerents.” This government is sometimes confused with martial law proper, which the same authority defines as “military rule exercised in a locality or district maintaining adhesion to the general government and over its own citizens, not enemies, where the public danger requires it.” Military government exists as an immediate result of *military possession* and the state of war, and *requires* no formal proclamation of its beginning, but is usually preceded by it. Martial law requires proclamation to inaugurate it, and is measured in duration by the emergency justifying it. It is usually terminated in the same way as it is inaugurated. Military government is absolute in authority except so far as it is limited by the law of war. It is in fact an exercise of sovereignty superseding wholly or in part the local municipal laws at the discretion of the executive of the dominant military power, but generally delegated expressly or impliedly by him to the military commanders under him. Under this authority, subordinate officers, such as governors, mayors, etc., may be appointed, and judicial systems, with civil and criminal jurisdiction, may be instituted, as for instance the Provisional Court of Louisiana, established by an executive order in 1862.

Many instances of the establishment of civil and military courts by the commander of the army of occupation with powers which belong, under ordinary circumstances, to civil courts, have occurred during our wars.

Under military government the laws of war are observed, and martial law may be declared and exercised in a most

stringent manner. Martial law may be called into existence at times of "public danger," whether this danger is shown on the theatre of war or in isolated parts of the country during war or times of peace. While it is necessarily incident to a state of war, it may legally be proclaimed in any case in which Congress is by the Constitution empowered to provide for the public danger arising from either internal or external cause, and whenever "ordinary law no longer adequately secures public safety and private rights." Martial law may also be proclaimed by a State government either by its legislature or executive—depending on its constitution and laws—within its own territory. This right does not belong to a territorial government. Being for the protection of public safety when threatened by hostile persons, as well as for the protection of private rights of all citizens, its exercise in reference to time and scope of authority will depend on the particular emergency.

However, in general, it will not restrict the rights of peaceful citizens or the office of civil institutions, but be directed towards offenders against military authority, and to repress acts of violence.

Military Commissions.—Martial law vests in the military commander the right to establish military tribunals or commissions to try offenses of a civil character, as well as those in violation of the laws of war, and not in general cognizable by a court martial.

These tribunals are constituted of such persons and in such numbers as the commanders may designate, though commissioned officers have usually been chosen. The offences within its jurisdiction must have been committed within the geographical command of the military commander who convenes the commission, and during the exercise of the military authority over that territory, but does not include purely military offences, nor, unless specifically empowered, civil controversies between private citizens. A military commission has a wider discretion in its procedure, and in making up its record, than a court martial; and, except in the case of spies, has no limitations as to the sentence it can pronounce.

The proceedings and sentence are subject to review by the convening authority, who has a wider discretionary action than in the case of courts martial, but they cannot be revised by a civil court, though the question of jurisdiction may be tried.

III. The Mutual Relations of the Civil and Military States, and the Individuals Composing Them.—This relation involves the employment of the Army for civil purposes, as well as the effect of the military upon the absolute rights of individuals, and the jurisdiction of civil and military courts over military subjects and private citizens.

Employment of the Army for Civil Purposes.—It is not lawful to employ any part of the Army of the United States as a *posse comitatus* or otherwise, for the purpose of executing the laws, except when it is expressly authorized by the Constitution or by act of Congress. The constitutional provision here referred to authorizes the use of the military forces for the purpose of guaranteeing every State a republican form of government, to protect them against invasion, and against domestic violence. The republican form of government would be endangered by the hostile action of a foreign power should it proceed to set up some form of government therein; by the revolutionary action of the people themselves should they forcibly attempt to change their republican form of government, or attempt to do so peaceably under their existing constitution.

Insurrection Against a State Government.—Congress has provided, in case of insurrection against a State government, that the President, upon the application of the Legislature of the State, or, if it cannot be convened soon enough to prepare for the emergency, then upon the application of the Governor, may, by an executive order, provide a sufficient military force, and give it proper directions to suppress the existing disturbance. The military forces to be used for this purpose are to act in a national capacity, and are composed of the land and naval forces, which would, of course, include the militia, if called out by the President. Their instructions would, therefore, not come from State officials, but would in general be to act

in accord with them, and their action would be the smallest consistent with the gravity of the situation. The constitutional provision terms this insurrection "domestic violence," by which is meant insurrection or rebellion against *State laws*, which may not necessarily require the declaring of martial law, but any obstruction of the law which the State may deem itself powerless to remove.

Insurrection in Violation of Civil Rights.—The same forces may be employed "whenever insurrection, domestic violence, unlawful combinations or conspiracies in any State so obstruct or hinder the execution of the laws thereof, and of the United States, as to deprive any portion or class of the people of any constitutional rights, privileges, immunities or protection, and the State authorities cannot, or fail to protect the people in such rights, it is then lawful for the President, and is declared to be his duty, to take *such measures*, by employment of the land forces * * * as he may deem necessary for the suppression of such insurrection, domestic violence or combinations."

Insurrection Against U. S. Government.—Also, "whenever by reason of unlawful obstructions, combinations or assemblages of persons, or rebellion against the authority of the Government of the U. S., it shall become impracticable, in the judgment of the President, to enforce, by the ordinary course of judicial proceedings, the laws of the U. S. within any State or Territory." Whenever the Army is to be employed in the preceding cases, the President must *first* issue a proclamation commanding the insurgents to disperse and retire peaceably to their homes within a limited time.

Other Cases in which the Army is Allowed to be Employed Civilly.—The Army may be employed by the President to enforce the non-intercourse acts with Indians; to arrest Indians accused of crimes under State or Territorial laws who have fled into the Indian country; to aid in the execution of the quarantine and health laws of the States at their respective sea-ports; to enforce the neutrality acts of Congress; to prevent in Florida the cutting down or

other destruction of the timber of the U. S.; to safely keep and protect individuals surrendered to the U. S. under extradition treaties; to protect the rights of discoverers of guano; to prevent the removal of contraband vessels or cargoes; to aid in enforcing the law abolishing peonage in New Mexico; to remove persons from lands secured to the U. S. who are not authorized by law to make settlement thereon. In addition to these uses of the Army, Army officers may be employed as Indian agents; to aid in taking the census, and for topographical work in the Coast Survey. The Army may be employed in the field, on the frontier, and to garrison the sea-coast fortifications, to prevent or terminate hostilities between any of the Indian tribes, or between them and the U. S. and its citizens, to resist invasion by any foreign nations, and to protect the property of the U. S.

The Rights of Individuals and their Violation.—There are certain obligations which individuals owe to the public as well as to each other. Any violation of these obligations or duties gives corresponding wrongs. Among these wrongs may be noticed violations of legal duties to the public. These are crimes, and are punished by indictment, while violations of legal duties to private individuals, called civil wrongs, are punishable by private action. It may be laid down as a general principle that such violations are illegal, and make the offender liable to punishment. This subject becomes important to a military person in the execution of the orders of a superior, as well as in the voluntary discharge of his supposed duties. The specific wrongs most frequently committed are violations of the absolute rights of personal security, which includes injuries to life, limb, body and health, personal liberty and private property. The order of a superior military officer to an inferior will not of itself justify the wilful killing of another. No mere words will justify the use of a deadly weapon, nor reduce the act of killing from murder to manslaughter; so, in the suppression of disorder, or a mutiny among soldiers, the means should be proportionate to the end to be gained. Violent measures clearly

unnecessary will not be justified. But officers charged with the good order of a camp or fort will not be required to weigh with scrupulous precision the exact amount of force necessary to suppress disorder.

When any part of the Army is legally employed to quell a civil disturbance, while the same general principles will apply, even a greater discretion is vested in the commanding officer.

In his capacity as private individual, a military person may, without a warrant, arrest any man, provided treason or felony has actually been committed and he can prove just cause of suspicion that the person arrested has committed it, or was implicated in it; so also for an actual breach of the peace whilst the strife is going on and to prevent its continuance; and the liberty of the person arrested may be restrained so long as the conduct of such person shows that the public peace is likely to be endangered by his acts.

If one man enters the house of another with force and violence, the owner of the house is justified in turning him out, without a previous request to depart; but if he enters quietly there must be a request to retire before hands can be lawfully laid upon him to turn him out, but the force used is only as much as is necessary. Any seizure of private property will in general be illegal, so that the arrest of a deserter taking his private property from the place where he is found, would constitute a cause of action. These instances illustrate the general principles indicating whether an act about to be done, will be in itself illegal as being a violation of a legal right. But these principles would of course only apply in time of peace, where public exigency would not overrule them.

Orders to do Illegal Acts.—In general an order must be clearly illegal, as requiring a violation of the law of the land or of military usage, before its disobedience would be justified, and under any circumstances the subordinate takes the risk of not knowing the actual cause for the issuance of the order. It has been held in our service that a

superior officer cannot lawfully give a command which does not relate to military duty or usage, or for the furtherance solely of some private end, as for instance, an order to do private work for an officer. Except in extreme cases, the better rule is to obey the order, as a Military Court would in general protect the inferior and hold the superior responsible, and the tendency of civil courts, if the inferior has acted in good faith, is towards justifying the inferior by order of his superior. This is shown by charging slight damages to the former, while holding the latter to much stricter accountability.

In case of martial law it has been held that a military officer is justified by an order from a superior apparently within the scope of his authority, and that an inferior is not responsible for a secret abuse of power.

For wrongs and injuries committed by superior officers against inferiors, civil courts are not inclined to interfere, and in these cases actual malice must be proven.

In general, army officers are almost judicial, and being vested with discretion, cannot be held to so strict an accountability civilly for the manner of performing or for the consequences of their official acts and duties.

V. Relations between the Civil and Military Laws.—Citizenship, with its rights and obligations, is not forfeited by entering the military service. The jurisdiction of civil courts over offenses committed against individuals, or local laws, apply equally to civilians and soldiers, and the benefit of the civil law cannot be denied because of being in the military service.

Military Law is only for the government of those in the military service, and is not subordinate in its sphere to, nor in conflict with, the general laws of the land.

In many cases, civil and military courts have concurrent jurisdiction, and that court which first assumes jurisdiction is the first to pass upon the case. Here, the important point is, where jurisdiction begins. Purely military offenses are, of course, only punishable by military courts; beyond this their jurisdiction extends only to such cases as

are expressly provided for by statutory law ; or the offender may also be liable before a civil tribunal even after a military trial, and *vice versa*. Thus a military person may be liable civilly for damages or imprisonment for illegal acts in violation of person or property.

There are some cases in which it seems there might arise a conflict between civil and military authority, but in these cases there is a settled principle upon which the authority of each rests. As to arrest on civil process, the Revised Statutes exempt soldiers except in certain cases of debt contracted before enlistment. Public policy extends to and protects all public officers, actually engaged in the specific performance of their official duties. As to arrest on criminal process, there is no exemption. Here, however, the question may arise as to where the offence was committed. If this be upon reservations under the *exclusive* jurisdiction of the United States, then the State or Territorial Courts have no jurisdiction, and the United States Courts only have concurrent jurisdiction with the Military Courts. In some cases, States have reserved the right to execute, within the Reservation, process issued by their Courts, on account of criminal offences committed or causes of action initiated without or within the same. The local courts of a Territory have power to cite officers or soldiers of the Army stationed upon Reservations within the Territory, to appear before them, and to attach or take their personal property in proper cases.

Habeas Corpus.—The serving of the writ of habeas corpus issuing from State and U. S. courts upon officers of the Army for the relief of parties, either civil or military, held by the authority of the U. S., is another instance. Here the principle is that no State court or judge thereof can authorize the discharge of a prisoner so held, but a U. S. court or judge thereof has authority to issue the writ, and order (in a proper case) the discharge of the prisoner. Should a State court judge issue the writ, it would be the duty of the officer to make return as follows :

FORT COLUMBUS, NEW YORK HARBOR, Jan. 11, 1871.

To the Hon., Judge of the Superior Court of the City of New York.

SIR: I have the honor to make return to the within writ of *habeas corpus*, issued in the case of, a private soldier in the service of the United States; that the said is a regularly enlisted soldier, and held to service in the Army of the United States by virtue of said enlistment [*or, in the case of any other party, the reasons for holding the same will be given*]; that under the decision of the Judge Advocate General of the Army, in December, 1871, sustained by the Supreme Court of the United States in the case of *Turble*, it is not my duty to produce the body of said in court; that such declaration and denial of the jurisdiction of your Honor is a matter of official duty, and not from any disrespect or contempt of your honorable court.

I am, Sir, very respectfully,

Your obedient servant,

TIMOTHY LANE,

Colonel 30th Cavalry

Commanding Post.

If, after such return, the State court should order the discharge of the prisoner, or attempt to enforce process for contempt, the execution of such order should be resisted by military force. [Should the officer be committed for contempt, he should at once sue out a writ of *habeas corpus* for his own release in the U. S. circuit or district court.] These principles apply to parties deeming themselves illegally enlisted or held to service by reason of minority or otherwise, to parties arrested charged with desertion or undergoing sentence for the same, and to prisoners in a State Penitentiary undergoing sentence duly imposed by a court martial. Should discharge be effected through the writ as issued, it would be the duty of the military authorities to rearrest the party released.

The writ of *habeas corpus* may issue out of U. S. courts for the purpose of collaterally reviewing the proceedings of a court-martial. Here the question is, whether the court was legally constituted, had jurisdiction, or if the sentence was legal; but the court would not judge of the merits of the case. This extends, also, to the Court of Claims, where the right to recover pay, etc., depends upon whether the court has transcended its authority. So also

such review may be made in an action for damages or false imprisonment under sentence. The authority of the court in this instance extends no further than to release the prisoner when the sentence is absolutely void.

Military Law.

By Military Law is meant the system of rules made for the internal government of the Army.

It applies alike in peace and in war, and has for its object to secure the efficient discipline of the military forces while governing them as a separate community. The military forces with us include the Regular and Volunteer Armies of the United States, including drafted men, and the Militia when called into the actual service of the United States. Military law has been extended by special statutory enactment to the Marine Corps when detached for service with the Army by order of the President; to members of the Signal Service, to all retainers of the camp, and all persons serving with the Armies of the United States *in the field* (though not enlisted soldiers), to professors and cadets of the Military Academy, to post-traders, chaplains, and to citizens under the 45th and 46th Articles of War, and under Section 1343 Revised Statutes; also to inmates of the Soldiers' Home, of the Military Prison, and of the National Home for Disabled Volunteers. It is quite difficult to define the line between the civil and military jurisdiction over civilians attached to or accompanying an Army, and the statutes which relate to the subject should be strictly construed. In general, military jurisdiction is special and limited, and the civilian in time of peace cannot be legally subjected to or made liable under it. This applies to officers and soldiers who by legal modes of separation from the service have become *civil persons*, with such exceptions as are mentioned in the Articles of War and Sections 1230, 1361, 4824, 4835, Revised Statutes.

As to amenability of the militia to military law, it may be noticed that it begins properly at the time when they are mustered in, and extends to the period of discharge,

which is usually done by formal muster-out accompanied by written discharges, though it has been done by an order to disband and return to their homes. Should the militia refuse to comply with the call of the President, they, though not in the public service, have committed a military offence against the United States, and may be punished by Courts Martial as authorized by Section 1649, Revised Statutes.

The court martial here contemplated is composed of militia officers, and is not necessarily governed by the Articles of War, but may be as a matter of usage, and the offence is a refusal or neglect to obey an executive order.

The authority for military law is based upon the Constitutional provisions giving to Congress and to the President the right to provide armies and to discipline them.

Under this authority we have a written law and an unwritten or common law (the latter being recognized as a guide to military justice in the 84th Article of War).

Military Law then comprises:

1st. The Articles of War and other statutory enactments.

2d. Army Regulations (subject to existing laws) as made by the President.

3d. Orders—both general and special.

4th. Customs of War.

Of these, the last three have the force of law as far as regulating the Army is concerned, but form no part of the law of the land.

Courts Martial.

For the preservation of order, and to maintain discipline in the Army, courts martial are provided for by the Articles of War. These are of several kinds, viz:

THE GENERAL COURT.

This is composed of not less than five, nor more than thirteen members, with a Judge-Advocate. All offences committed by commissioned officers against the military law are cognizable by, and if the offenders are tried at all they must be tried by, a general court martial. Certain

offences committed by enlisted men must also be tried by this court, such as desertion, drunkenness on duty, sleeping on post, and such other offences which, in the discretion of the power authorized to convene a court, requires a greater punishment than can be inflicted by a minor court.

General courts martial can be ordered by any general officer commanding the Army of the United States, a separate Army, or a separate Department, in time of peace or war; or by a colonel commanding a geographical department, when the accused is junior to himself and serving in his command. When an officer who has authority to convene a court prefers charges himself, either over his own signature or by his order, a court to try the same must be ordered by superior authority, and the proceedings forwarded to the convening authority.

General courts may also take cognizance of certain offences committed by soldiers against the civil codes, but in all such cases the sentence of the court must conform to the statute providing punishments for like offences in force in the State or Territory in which the offence is committed.

In time of war the commander of a division or a separate brigade of troops shall be competent to appoint a general court martial. But when such commander is the accuser or prosecutor of any person under his command, the court shall be appointed by the next highest commander.

THE GARRISON COURT.

This court is convened by the same character of order as the general court (which may be issued by any post commander), and the proceedings during a trial are conducted in like manner also; but the number of members is limited to three and a Judge Advocate. It is constituted for the trial of minor offences of enlisted men. It has no power to try officers, and its sentences cannot exceed reduction to the ranks of a non-commissioned officer, forfeiture of one month's pay, and confinement for the same period in any one case.

THE REGIMENTAL COURT.

This court is constituted the same as a garrison court,

and its powers are limited to the same degree. A regimental court is only ordered when there are no officers present for duty with it but those belonging to the regiment. One officer only of the general staff, or any other organization doing duty with it, requires it to be changed into the garrison court.

THE FIELD OFFICER'S COURT.

This court is only legalized in time of war. There a field officer may be detailed in every regiment to try soldiers thereof for offences not capital ; and no soldier serving with his regiment shall be tried by a regimental or garrison court martial when a field officer of his regiment may be so detailed.

THE RECORD.

A court martial is required to keep a complete and accurate record of its proceedings in detail. This record must be clearly and legibly written, without erasures or interlineations, especially so in the finding and sentence. All papers received in evidence or otherwise should be attached, after being distinctly numbered in the order in which they have been introduced. The Judge Advocate is responsible for the correct keeping of this record, but the court has control over it, and may determine whether any portion of its proceedings shall be recorded or not. It is, however, irregular for a court to expunge any part of its proceedings from the record, but such act would not necessarily affect the validity of the final judgment, unless the part struck out was material to the trial, as, for instance, testimony, plea, etc. All orders referring to or modifying the court should appear on the record. Recommendations to mercy should, however, be entirely separate. The hours of meeting and adjournment must be stated in the record, to show they are authorized. (*See 94th Article of War; also see Arts. 72 to 95 inclusive, in relation to Courts Martial.*) The record should be written on the successive pages of legal cap paper, each page numbered at the upper left-hand corner, and should be down one page, then commenced at the top of the next when turned, so as to use both sides of the paper.

THE FORM FOR THE PROCEEDINGS.

The court assembles at the appointed time and place. The senior member present acts as President, who takes his seat at the end of a long table. The other members take their seats in order of rank, the senior on the right of the President, the next in rank on the President's left, and so in succession on the opposite sides of the table; the Judge Advocate, who is designated as such in the order convening the court, being at the end of the table opposite the President. The President calls the court to order. The roll is then called by the Judge Advocate, and the absentees noted. The prisoner is then called before the court, and should take his place near the left of the Judge Advocate, and all witnesses subsequently examined should take their place on the right of the Judge Advocate.

The following form gives not only the essential parts of the record, but indicates the successive steps in the case, the italicized parts in brackets being additional instruction, and the places, dates and times fictitious:

Page 1.

CASE I.

Proceedings of a General Court Martial convened at Fort Washington, N. Y., by virtue of the following order:

HEADQUARTERS DIVISION OF THE ATLANTIC,
July 15, 1879.

Special Orders }
No. 6.

A General Court Martial to meet at Fort Washington, N. Y., on Monday the 20th day of July, 1879, at 11 o'clock a. m., or as soon thereafter as practicable, for the trial of such persons as may be brought before it by authority from these headquarters [*or may be properly brought before it*].

DETAIL FOR THE COURT.

1. Colonel ———, — U. S. Artillery.
2. Major ———, — U. S. Artillery.
3. Captain ———, — U. S. Cavalry.

* * * * *

12. 1st Lieut. ———, — U. S. Artillery.

13. 1st Lieut. ———, — U. S. Infantry.

1st Lieut. ———, — U. S. Infantry, is appointed Judge Advocate of the Court.

[Should less than thirteen members be detailed, the order must here read: "No other officers than those named can be assembled without manifest injury to the service." So also the order may state: "The court is authorized to sit without regard to hours."]

By command of Major General _____
 [Official, _____, [Name.] _____,
 _____, Asst. Adjt. General.
 A. A. G. or A. D. C., }
 in case the signature to the }
 order is printed. }

FORT WASHINGTON, N. Y.

July 20, 1879.

The court met pursuant to the foregoing order at 11 o'clock a. m.

Present.

1. Colonel _____, — U. S. Artillery.
2. Major _____, — U. S. Artillery.
- * * * * * *
11. 1st Lieut. _____, — U. S. Artillery.
12. 1st Lieut. _____, — U. S. Infantry.
- 1st Lieut. _____, — U. S. Infantry, Judge Advocate.

Absent.

Captain _____, — U. S. Cavalry.

[Here state the cause of the absence, if known, and if a medical certificate or other evidence of cause of absence is furnished, it should be appended properly marked and referred to as being appended.]

The Court then proceeded to the trial of Sergeant _____, Company C., — Infantry, who then came before the Court, and having heard the order convening it read, was asked if he had any objection to being tried by any member present named in the order; to which he replied in the negative. [Should there be any objection, the record would be as follows:]

The prisoner accused submitted the following objection to 1st Lieut. _____ (here insert the objection.)

The challenged member then stated that: (here insert the statement of the challenged member.)

(Should the accused desire that the challenged member be placed on his *voir dire*, the oath administered by the Judge Advocate would be as follows: "You do swear that you will make true answer to such questions as may be put to you touching your competency to serve as a member in this case: So help you God." And the record would continue as follows:)

The prisoner then requested that the challenged member be sworn on his *voir dire*.

First Lieut. ———— was then duly sworn by the Judge-Advocate and testified as follows:

Question by prisoner.

Answer.

	*		*		*
*	*	*	*	*	*

The Court was then cleared, the challenged member and the prisoner retiring, and after due deliberation the Court was re-opened, the accused and challenged member being present, and the decision of the Court was announced by the Judge Advocate, that the objection of the prisoner is sustained and 1st. Lieut. ————, is excused from serving as a member of the Court in this case (*or*, that the objection of the prisoner is not sustained).

(*Objection can only be made to one member at a time, and a record as above must be made in each instance. If no objection is made to any member this part of the record here inclosed in brackets would not appear and the record would continue as follows :*)

The members of the Court were then severally duly sworn by the Judge Advocate, and the Judge Advocate was duly sworn by the President of the Court; all of which oaths were administered in the presence of the prisoner. (*In swearing the Court, all present stand, whereupon the Judge Advocate calls each member by name, then reads the oath but once; the President then administers the oath to the Judge Advocate.— For form of oaths, see 84th and 85th Articles of War.*) [*Here immediately after swearing the Court, the accused should introduce his counsel, though the introduction may be made at any time of the trial. Should the Court refuse to allow a particular person to act, the reason should be stated in the record; if no objection is made the record would read as follows :*]

The accused then requested to introduce ———— as his counsel, which request was granted. (If any delay in the trial is desired, application should now be made; the application and decision of the Court are here entered upon the record.) The accused was then duly arraigned on the following charges and specifications.

Charge I.	*	*	*	*
Specification I.	*	*	*	*
Charge 2.	*	*	*	*
Specification I.	*	*	*	*
Specification II.	*	*	*	*

[*The following is the form of the arraignment: the prisoner standing, the charges and specifications should be read to him by the Judge Advocate, who then should say: "You have heard the charge and specifications preferred against you, how say you to the (1st) specification, guilty or not guilty? how say you to the charge, guilty or not guilty?" Here notice the specifications under each charge are plead to in their order, 1st, 2d, etc., and lastly the charge: the record of this continues as follows :*]

To which the prisoner pleaded as follows:

To specification to first charge, "guilty" (or) "not guilty."

To first charge, "guilty" (or) "not guilty."

To the first specification, second charge, "guilty (or) "not guilty."

To the second specification, second charge, "guilty" (or) "not guilty."

To the second charge, "guilty" (or) "not guilty."

[This is pleading to the merits, when the prisoner stands mute, see 89th Article of War; or the prisoner may make any other plea, such as a plea in bar of trial, or in bar of judgment, or may plead guilty to part of a specification and not guilty to the other part, and may substitute other words for part of a specification, instead of pleading to the merits; any arguments made in support or against these pleas, and the decision of the Court, would be entered in lieu of the plea to the merits.]

1st Lieut. ———, — U. S. Infantry, a witness for the prosecution, then came before the Court, was duly sworn by the Judge Advocate and testified as follows: (for form of oath, see 92d Article of War. It may here be stated that the first question asked of a witness is to establish his identity, the second to see if he knows the prisoner, and subsequent ones to bring out material facts.)

Question by the Judge Advocate.

Answer.

* * * * *

Cross-Examination.

Question by prisoner.

Answer.

* * * * *

[The prisoner asks his questions through the Judge Advocate. It should appear on the record that he has had an opportunity to cross-examine the witness (by stating in the record "that the prisoner then declined to cross-examine the witness.") If the cross-examination brings out new matter essential to the issue, the Judge Advocate re-examines the witness if necessary. The Court now asks such questions as it may deem necessary. A question by a member of the Court, if objected to, and the objection is sustained by the Court, must be recorded as "question by a member." If not rejected, the record will continue as follows:

Question by the Court.

Answer.

* * * * *

(After all the testimony for the prosecution has been presented the record continues as follows:)

The Judge Advocate then announced that the prosecution here rested.

(Suppose adjournment is here moved and agreed to, the record would read as follows:)

The Court then at two o'clock p. m. adjourned to meet the 22d inst., at 10 o'clock a. m.

(Name) ———,

1st Lieut., — Infantry.

Judge Advocate.

(This adjournment may be on motion of a member, or at the request of the prisoner, or of the Judge Advocate.)

SECOND DAY.

FORT WASHINGTON, N. Y.,
July 22, 1879.

The court met pursuant to the foregoing order and adjournment.

Present.

(Here give names and rank of members present, and of the Judge Advocate, as in the first day record.)

Absent.

(Here give names, rank, and cause of absence.) The prisoner (and _____, his counsel) also present.

The proceedings of the 20th inst. were read and approved. (If not approved, corrections should now be made, so as to be approved by the court, and the record would continue.)

Sergeant _____, — Infantry, a witness for the defense, then came before the court, and was duly sworn; testified as follows:

Question by accused. * * *

Answer. * * * *

Cross-Examination.

Question by Judge Advocate. * * *

Answer. * * *

(Re-Examination should here take place, if necessary.)

Question by Court. * * *

Answer. * * *

Question by member. * * *

Answer. * * *

(After all the witnesses for the defense have been called, the record would continue) made the following statement in his defence (or) submitted a written statement which was read to the Court by the prisoner (or by the Judge Advocate), and is hereto annexed, marked "_____" (or) declined to make any statement in his defense (or) requested until _____ to prepare his statement. (Notice: the appropriate heading is to be chosen from the several given above. Also, that any written statement, argument or plea by the accused should be signed by himself.) The Judge Advocate replied as follows: (Here insert the reply if verbal; if written, it should be read, marked, annexed, and referred to as in the defense) (or) the Judge Advocate submitted the case without remark. (At this point in the case the proceedings of the Court become secret. No one is allowed to be present but the members of the Court and the Judge Advocate. The utmost caution must be exercised, as a

violation of this secrecy is a fatal defect to the legality of the proceedings. The record continues as follows :)

The Court was then cleared and closed for deliberation; and, having maturely considered the evidence adduced (*or, where no evidence is offered on either side* "having maturely considered the case") finds the accused, Sergeant _____, — Infantry,

Of the specification, first charge, "Guilty" (*or*) "not Guilty."

Of the first charge, "Guilty" (*or*) "not Guilty."

Of the first specification, second charge "Guilty" (*or*) "not Guilty."

Of the second specification, second charge "Guilty" (*or*) "not Guilty."

Of the second charge, "Guilty" (*or*) "not Guilty."

(*Of course, whatever the finding of the Court may be, it should be recorded exactly.*)

And the Court does therefore sentence him, Sergeant _____, — Infantry, _____ (*here insert sentence*), (*or*) the Court does therefore acquit him, _____, — Infantry.

_____,
Colonel _____, U. S. Artillery,
President.

_____,
1st Lieut. U. S. Infantry,
Judge Advocate.

(*A space of about one page should be left blank at this point in the proceedings for the decision and orders of the reviewing authority. An adjournment now usually occurs, to give the Judge Advocate an opportunity to write up the day's proceedings. If so, the record of the adjournment and the subsequent meeting to read over the proceedings, reads similarly to that at the previous adjournment in this case. Final adjournment will be added to the record of the case; if more than one case be brought before the Court, then to the record of the last one, or whenever the Court has no further business before it, and reads as follows :)*

There being no further business before it, the court then, at 1 o'clock p. m., adjourned *sine die*.

_____,
Colonel — U. S. Artillery,
President.

_____,
1st Lieut. — U. S. Infantry,
Judge Advocate.

Endorsement.—The record of the case (or of each case, being separately on legal cap paper) should be folded in four folds, and endorsed on the first fold as follows :

FORT WASHINGTON, N. Y.,
July 24, 1879.

Proceedings of a General Court Martial convened by Special Orders
No. 6, dated Headquarters Division of the Atlantic, July 15, 1879.

Colonel I—— V——,
— U. S. Artillery,
President.

1st Lieutenant A —— B —— G ——,
— U. S. Infantry.
Judge Advocate.

FIRST CASE TRIED.

Serg't E —— F ——,
Co. ——, —— Infantry.

Record of Revision: (*If the record is returned to the Court by the reviewing authority for revision, the subsequent proceedings thereon should be recorded as follows:*)

REVISION.

FORT WASHINGTON, N. Y.,
September —, 1879.

The Court re-convened with closed doors, pursuant to the following order, at 10 o'clock a. m.:

(*Here insert copy of order which orders the revisions.*)

Present:

* * * * * * *

Absent:

* * * * * * *

The Communication from the Commanding Officer, Division of the Atlantic, of date ————, 1879, (or memorandum) containing the instructions to the Court, and the reasons of the reviewing authority for requiring a reconsideration of the findings, (or sentence, or correction of the record,) was then read to the Court by the Judge Advocate, and is attached to the record and marked "—."

The Court then maturely deliberated upon and considered the said communication, and the reasons set forth for revision; and on motion,

a. Now revoke the foregoing findings, and having maturely considered the evidence adduced, find, etc., etc.,

or

b. Now revoke the foregoing sentence, and do sentence, etc., etc.,

or,

c. Respectfully adheres to the foregoing findings and sentence,

or,

d. Corrects the record by, etc., etc.,

_____,
Colonel — U. S. Artillery,
President.

_____,
1st Lieutenant — Infantry,
Judge Advocate.

CHARGES AND SPECIFICATIONS.

The charge is based upon and should be stated as a "violation of an existing Article of War or other statute of the United States."

The specification should be an explicit and concise statement of all the facts which go to make up the specific offence alleged in the charge, with time, place and circumstances. When doubt exists, the allegation may be as "at or near" a certain place, and "on or about" a certain date. The following indicates the general form established by custom, and the manner of preferring them:

Charge and specification preferred against Sergeant _____, Company —, U. S. Infantry.

Charge: Violation of the 38th Article of War.

Specification: In that, Sergeant _____, Company —, U. S. Infantry, having been regularly mounted as sergeant of the guard on the morning of June 1, 1879, was found so drunk between the hours of five and six p. m. as to be unable to properly perform his duties.

This at Fort Washington, N. Y., on the 1st day of June, 1879.

(Name of officer preferring charges.) _____,

Captain U. S. Infantry,
Officer of the Day.

Witnesses:

Captain _____, U. S. Infantry.

Corporal _____, Company "A," U. S. Infantry.

EXAMINATION OF WITNESSES.

The following rules from Gardiner's "Instruction for Court Martial" show the procedure in the examination of witnesses, and in securing their attendance:

Care should be taken in the direct examination to prove, as nearly as possible, the averments of time and place laid down in the specifications.

Leading questions, or such as from their construction plainly suggest to the witness the desired answer, are not admissible in an examination-in-chief.

In the trial of a case, the court should usually defer questioning a witness until after his examination by the Judge Advocate, and the prisoner, has been completed. Such questions should be for the purpose of clearing doubts in the minds of members, or of reconciling discrepancies.

The cross-examination should be confined to testimony elicited in the examination-in-chief, and not run into a general defence involving new matter. When facts are to be elicited from witnesses for the prosecution, advantageous to the prisoner, such witnesses can be recalled by the defense for that purpose.

Re examination is only for the purpose of explaining any facts that may come out in the cross-examination, and should, as a general rule, be confined to this.

Witnesses may be recalled by the court at any stage in the proceedings for such examination as may be deemed necessary, in which case both parties must be present. The court may also call before it witnesses not summoned by either the prosecution or defence.

When the court takes evidence after a plea of "guilty," the prisoner may cross-examine the witnesses, and he may produce evidence to rebut them, and evidence as to character, and may address the court in extenuation of the offence or in mitigation of punishment.

The best attainable evidence should always be adduced, and should be confined to the allegations at issue.

Hearsay testimony is inadmissible; as also are *opinions* of witnesses, except upon questions where witnesses are called to testify as *experts*, and the fact they are such clearly shown.

In allegations of drunkenness, witnesses, in other respects competent, can give their opinion and belief as to the state of sobriety of the prisoner at the times specified.

Documentary evidence is only admissible when its authenticity has been established by sworn testimony, or under the seal of a court of record, according to the laws of the State where taken, or of the United States.

When original documents are introduced, and are of such a character that the originals cannot be retained, copies, certified as correct by the Judge Advocate, may be attached to the record.

When transcripts from the records of any of the Executive Departments of the Government are used, they should be certified to by the chief officer of the bureau in which the originals are filed, and the authenticity of the certification verified under the seal of the Department by the Secretary thereof, or otherwise established.

After a witness has given his evidence in full, it should be read over to him, that he may see whether it has been recorded as he gave it, and that he may make corrections, if necessary.

Courts martial are governed by the Common Law Rules of Evidence, except where subsequently modified by specific acts of Congress.

To secure the attendance of necessary and material witnesses before a General Court Martial, the Judge Advocate should proceed as follows:

If the witness is an officer or an enlisted man, the summons should be addressed to him through the proper military channels, so that the necessary orders for attendance may be issued.

The 91st Article of War authorizes the taking of the depositions of witnesses residing beyond the limits of the State, Territory or District where the court may be ordered to sit, if taken on reasonable notice to the opposite party, and duly authenticated. Depositions will, to save expense to the Government, be taken whenever practicable.

In order to subpoena a citizen witness, it must be made to appear to the satisfaction of the court, that his testimony is "material and necessary," and the fact entered on the record. It usually happens that a Judge Advocate receives the "charge and specifications" (which stand in place of an indictment in the civil courts), prior to the assembling of the court; and that, to prevent delay in the trial, it becomes necessary to summon or subpoena the military or civilian witnesses whose names are attached.

In such case, the subpoena (in duplicate) for the citizen witness may be issued, *pro forma*, as above indicated—without, of necessity, waiting for the court to assemble; but in the event of the witness not obeying it, the Judge Advocate, upon moving for a writ of attachment, must show to the court additionally, and have it entered on the record—"that the witness is a material and necessary one."

Duplicate subpoenas should then be sent to the nearest Post Commander for service, if the witness resides within the department, or else to department headquarters, unless otherwise specially directed by the department commander.

Service is made, under the laws of the United States, by delivering the subpoena to the witness; and *proof* of service, by returning the duplicate original to the Judge Advocate, with an affidavit endorsed to the effect, that on such a day, date, and place, the affiant *personally* served the within named witness, by delivering to him a subpoena, of which the within is a complete copy.

Any military person, instructed by the Judge Advocate or Post Commander, can serve the subpoena; but service by mail is *not* a legal service.

Should the witness fail to appear on due and reasonable notice, the Judge Advocate has, by Section 1202, Revised Statutes of the United States, power to issue like process, to compel any witness to appear and testify, as the courts of criminal jurisdiction within the State, Territory, or District where such Court may be convened. This power includes also the power to execute such process through some officer, who shall be specially charged with its execution.

The Judge Advocate should, therefore, present to the Court, and have

attached to the record, and therein noted, the duplicate subpoena and affidavit of service, and formally move the Court for a writ of attachment against the contumacious witness.

If the motion is granted, the record should show it; and the Judge Advocate should then, unless otherwise specially directed by the Department Commander, apply to the nearest Post Commander to the residence of witness, if within the Department, for the name of some military officer to serve the process, and formally direct the writ of attachment to him, and attach thereto a certified copy of the order convening the Court, and copies also of the original subpoena and charges and specifications. The Post Commander will thereupon furnish the officer a sufficient force for the execution of the process, whenever such force shall be actually required.

The following forms should be used:

(*Subpœna.*)

GENERAL COURT-MARTIAL ROOMS,

(*Station of Court.*)

THE PRESIDENT OF THE UNITED STATES OF AMERICA:

To* GREETING:

Pursuant to section 1202 Revised Statutes of the United States, you are hereby required to be and appear, in your own proper person, on the . . . day of . . . , 187 . . , at . . . o'clock in the . . . noon, before a General Court-Martial of the United States, convened at said . . . by virtue of Special Orders Number . . , of . . . , 187 . . , from the Headquarters of the Department of the . . . , to testify and give evidence all that you may know concerning the pending case then and there to be tried, of the United States *versus* . . . , accused of . . . under the laws of the United States, and have you then and there this precept.

Witness: (*Name of Presiding Officer*) , President of said Court, this . . . day of . . . , 187 . . .
(*Name.*)
(*Rank.*)

Judge Advocate.

(**Insert name and address of witness, if known.*)

If the witness resides without the Department, the Judge Advocate should transmit the writ of attachment, with certified copies of orders convening Court, subpoena, and charges, to these Headquarters, properly signed and filled in, except as to the name of the officer who may be subsequently indicated to serve the writ.

(*Process of Attachment.*)

THE PRESIDENT OF THE UNITED STATES OF AMERICA:

To

Stationed at

GREETING:

WHEREAS, a General Court-Martial of the United States was duly convened at . . . , on the . . . day of . . . , 187 . . , pursuant to Special Orders No. . . . of . . . , 187 . . , from Headquarters . . . , a copy of which said order is hereto annexed, marked "A,"

and, WHEREAS, on the . . . day of . . . , 187 . . . , at . . . , the said General Court-Martial having been duly sworn, . . . of the United States Army, was duly arraigned, and his trial proceeded with on a certain charge, instituted at the prosecution of the United States, for the offence of . . . under the laws of the United States, a copy of which is hereto annexed, marked "B;" and WHEREAS, one* . . . of . . . , in the . . . , was, on the . . . day of . . . , 187 . . . , personally served with a subpoena (a duplicate of which is hereto annexed, marked "C."), directing him to appear and testify in said cause at the time and place therein commanded; and WHEREAS, the said . . . did, on the . . . day of . . . , 187 . . . , fail and neglect to appear before said Court, or testify in said cause, as required by said subpoena, and still fails and neglects to appear or testify in said cause, he being a necessary and material witness therein, and no just excuse has been offered for such neglect:

NOW, THEREFORE, under and by virtue of section 1202 Revised Statutes of the United States you are hereby commanded that you take the said* . . . wherever he may be found within the United States, and him safely keep, and bring you his body without delay before the said General Court-Martial convened at said . . . , and of which . . . United States Army, is President, at the Court Room thereof, on the . . . day of . . . , 187 . . . , at . . . o'clock in the forenoon, at the opening of said Court, to then and there testify in the said cause of the United States *versus* . . . , now depending, and then and there to be continued and tried.

And have you then and there this writ.

BY ORDER OF THE COURT:

IN WITNESS WHEREOF, I, as Judge Advocate of said Court, duly appointed and sworn, have hereto set my hand and seal, at . . . , this . . . day of . . . , 187 . . .

(Name.) . . .

(Rank.) . . . Judge Advocate.

(*Insert the name of contumacious witness.)

Seal.

Articles of War.

SECTION 1342. The armies of the United States shall be governed by the following rules and articles. The word officer, as used therein, shall be understood to designate commissioned officers; the word soldier shall be understood to include non-commissioned officers, musicians, artificers, and privates, and other enlisted men, and the convictions mentioned therein shall be understood to be convictions by court martial.

ARTICLE I. Every officer now in the army of the United States shall, within six months from the passing of this act, and every officer hereafter appointed shall, before he enters upon the duties of his office, subscribe these rules and articles.

ART. 2. These rules and articles shall be read to every enlisted man at the time of, or within six days after, his enlistment, and he shall thereupon take an oath or affirmation, in the following form: "I, A. B., do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America; that I will serve them honestly and faithfully against all their enemies whomsoever, and that I will obey the orders of the President of the United States, and the orders of the officers appointed over me, according to the rules and articles of war."

This oath may be taken before any commissioned officer of the army.

ART. 3. Every officer who knowingly enlists or musters into the military service any minor over the age of 16 years without the written consent of his parents or guardians, or any minor under the age of 16 years, or any insane or intoxicated persons, or any deserter from the military or naval service of the United States, or any person who has been convicted of any infamous criminal offense, shall, upon conviction, be dismissed from the service, or suffer such other punishment as a court martial may direct.

ART. 4. No enlisted man duly sworn shall be discharged from the service without a discharge in writing, signed by a field officer of the regiment to which he belongs, or by the commanding officer, when no field officer is present; and no discharge shall be given to any enlisted man before his term of service has expired except by order of the President, the Secretary of War, the commanding officer of a department, or by sentence of a general court-martial.

ART. 5. Any officer who knowingly musters as a soldier a person who is not a soldier, shall be deemed guilty of knowingly making a false muster, and punished accordingly.

ART. 6. Any officer who takes money, or other thing, by way of gratification, on mustering any regiment, troop, battery, or company, or on signing muster rolls, shall be dismissed from the service, and shall thereby be disabled to hold any office or employment in the service of the United States.

ART. 7. Every officer commanding a regiment, an independent troop, battery, or company, or a garrison, shall, in the beginning of every month, transmit through the proper channels, to the Department of War, an exact return of the same, specifying the names of the officers then absent from their posts, with the reasons for and the time of their absence. And any officer who, through neglect or design, omits to send such returns, shall, on conviction thereof, be punished as a court martial may direct.

ART. 8. Every officer who knowingly makes a false return to the Department of War, or to any of his superior officers, authorized to call for such returns, of the state of the regiment, troop, or company, or garrison under his command, or of the arms, ammunition, clothing, or other stores thereunto belonging, shall, on conviction thereof before a court martial, be cashiered.

ART. 9. All public stores taken from the enemy shall be secured for the service of the United States, and for neglect thereof the commanding officer shall be answerable.

ART. 10. Every officer commanding a troop, battery, or company, is charged with the arms, accoutrements, ammunition, clothing, or other military stores belonging to his command, and is accountable to his colonel in case of their being lost, spoiled, or damaged otherwise than by unavoidable accident, or on actual service.

ART. 11. Every officer commanding a regiment or an independent troop, battery, or company, not in the field, may, when actually quartered with such command, grant furloughs to the enlisted men, in such numbers and for such time as he shall deem consistent with the good of the service. Every officer commanding a regiment, or an independent troop, battery, or company, in the field, may grant furloughs not exceeding thirty days at one time, to five per centum of the enlisted men, for good conduct in the line of duty, but subject to the approval of the commander of the forces of which said enlisted men form a part. Every company officer of a regiment, commanding any troop, battery, or company not in the field, or commanding in any garrison, fort, post, or barrack, may, in the absence of his field officer, grant furloughs to the enlisted men, for a time not exceeding twenty days in six months, and not to more than two persons to be absent at the same time.

ART. 12. At every muster of a regiment, troop, battery or company, the commanding officer thereof shall give to the mustering officer certificates, signed by himself, stating how long absent officers have been absent, and the reasons of their absence. And the commanding officer of every troop, battery, or company shall give like certificates, stating how long absent non-commissioned officers and private soldiers have been absent and the reasons of their absence. Such reasons and time of absence shall be inserted in the muster rolls opposite the names of the respective absent officers and soldiers, and the certificates, together with the muster rolls, shall be transmitted by the mustering officer to the Department of War, as speedily as the distance of the place and muster will admit.

ART. 13. Every officer who signs a false certificate relating to the absence or pay of an officer or soldier, shall be dismissed from the service.

ART. 14. Any officer who knowingly makes a false muster of man or horse, or who signs, or directs, or allows the signing of any muster roll, knowing the same to contain a false muster, shall, upon proof thereof by two witnesses, before a court-martial, be dismissed from the service, and shall thereby be disabled to hold any office or employment in the service of the United States.

ART. 15. Any officer who, wilfully or through neglect, suffers to be lost, spoiled, or damaged, any military stores belonging to the United States, shall make good the loss or damage, and be dismissed from the service.

ART. 16. Any enlisted man who sells, or willfully or through neglect wastes the ammunition delivered out to him, shall be punished as a court martial may direct.

ART. 17. Any soldier who sells or, through neglect, loses or spoils his horse, arms, clothing, or accoutrements, shall suffer such stoppages, not exceeding one-half of his current pay, as a court martial may deem sufficient for repairing the loss or damage, and shall be punished by confinement or such other corporal punishment as the court may direct.

ART. 18. Any officer commanding in any garrison, fort, or barracks of the United States who, for his private advantage, lays any duty or imposition upon, or is interested in, the sale of any victuals, liquors, or other necessities of life, brought into such garrison, fort, or barracks, for the use of the soldiers, shall be dismissed from the service.

ART. 19. Any officer who uses contemptuous or disrespectful words against the President, the Vice-President, the Congress of the United States, or the chief magistrate or legislature of any of the United States in which he is quartered, shall be dismissed from the service, or otherwise punished, as a court martial may direct. Any soldier who so offends shall be punished as a court martial may direct.

ART. 20. Any officer or soldier who behaves himself with disrespect towards his commanding officer shall be punished as a court martial may direct.

ART. 21. Any officer or soldier who, on any pretense whatsoever, strikes his superior officer, or draws or lifts up any weapon, or offers any violence against him, being in the execution of his office, or disobeys any lawful command of his superior officer, shall suffer death, or such other punishment as a court martial may direct.

ART. 22. Any officer or soldier who begins, excites, causes, or joins in any mutiny, or sedition, in any troop, battery, company, party, post, detachment, or guard, shall suffer death, or such other punishment as a court martial may direct.

ART. 23. Any officer or soldier who, being present at any mutiny or sedition, does not use his utmost endeavor to suppress the same, or having knowledge of any intended mutiny or sedition, does not, without delay, give information thereof to his commanding officer, shall suffer death, or such other punishment as a court martial may direct.

ART. 24. All officers, of what condition soever, have power to part and quell all quarrels, frays, and disorders, whether among persons belonging to his own or to another corps, regiment, troop, battery or company, and to order officers into arrest, and non-commissioned officers and soldiers into confinement, who take part in the same, until their proper superior officer is acquainted therewith. And whosoever, being so ordered, refuses to obey such officer or non-commissioned officer, or draws a weapon upon him, shall be punished as a court martial may direct.

ART. 25. No officer or soldier shall use any reproachful or provoking speeches or gestures to another. Any officer who so offends shall be put in arrest. Any soldier who so offends shall be confined, and required to ask pardon of the party offended, in the presence of his commanding officer.

ART. 26. No officer or soldier shall send a challenge to another officer or soldier to fight a duel, or accept a challenge so sent. Any officer who so offends shall be dismissed from the service. Any soldier who so offends shall suffer such punishment as a court martial may direct.

ART. 27. Any officer or non-commissioned officer, commanding a guard, who, knowingly and willingly, suffers any person to go forth to fight a duel, shall be punished as a challenger; and all seconds or promoters of duels, and carriers of challenges to fight duels, shall be deemed principals, and punished accordingly. It shall be the duty of any officer commanding an army, regiment, troop, battery, company, post, or detachment, who knows or has reason to believe that a challenge has been given or accepted by any officer or enlisted man under his command, immediately to arrest the offender and bring him to trial.

ART. 28. Any officer or soldier who upbraids another officer or soldier for refusing a challenge shall himself be punished as a challenger; and all officers and soldiers are hereby discharged from any disgrace or opinion of disadvantage which might arise from their having refused to accept challenges, as they will only have acted in obedience to the law, and have done their duty as good soldiers, who subject themselves to discipline.

ART. 29. Any officer who thinks himself wronged by the commanding officer of his regiment, and, upon due application to such commander, is refused redress, may complain to the general commanding in the State or Territory where such regiment is stationed. The general shall examine into said complaint and take proper measures for redressing the wrong complained of; and he shall, as soon as possible, transmit to the Department of War a true statement of such complaint, with the proceedings had thereon.

ART. 30. Any soldier who thinks himself wronged by any officer may complain to the commanding officer of his regiment, who shall summon a regimental court martial for the doing of justice to the complainant. Either party may appeal from such regimental court martial to a general court martial; but if, upon such second hearing, the appeal appears to be groundless and vexatious, the party appealing shall be punished at the discretion of said general court martial.

ART. 31. Any officer or soldier who lies out of his quarters, garrison, or camp, without leave from his superior officer, shall be punished as a court martial may direct.

ART. 32. Any soldier who absents himself from his troop, battery, company, or detachment, without leave from his commanding officer, shall be punished as a court martial may direct.

ART. 33. Any officer or soldier who fails, except when prevented by sickness or other necessity, to repair, at the fixed time, to the place of parade, exercise, or other rendezvous appointed by his commanding officer, or goes from the same, without leave from his commanding officer, before he is dismissed or relieved, shall be punished as a court martial may direct.

ART. 34. Any soldier who is found one mile from camp, without leave in writing from his commanding officer, shall be punished as a court martial may direct.

ART. 35. Any soldier who fails to retire to his quarters or tent at

the beating of retreat, shall be punished according to the nature of his offence.

ART. 36. No soldier belonging to any regiment, troop, battery, or company shall hire another to do his duty for him, or be excused from duty, except in cases of sickness, disability, or leave of absence. Every such soldier found guilty of hiring his duty, and the person so hired to do another's duty, shall be punished as a court martial may direct.

ART. 37. Every non-commissioned officer who connives at such hiring of duty shall be reduced. Every officer who knows and allows such practices shall be punished as a court martial may direct.

ART. 38. Any officer who is found drunk on his guard, party, or other duty, shall be dismissed from the service. Any soldier who so offends shall suffer such punishment as a court martial may direct. No court martial shall sentence any soldier to be branded, marked or tattooed.

ART. 39. Any sentinel who is found sleeping upon his post, or leaves it before he is regularly relieved, shall suffer death, or such other punishment as a court martial may direct.

ART. 40. Any officer or soldier who quits his guard, platoon, or division, without leave from his superior officer, except in a case of urgent necessity, shall be punished as a court martial may direct.

ART. 41. Any officer who, by any means whatsoever, occasions false alarms in camp, garrison, or quarters, shall suffer death, or such other punishment as a court martial may direct.

ART. 42. Any officer or soldier who misbehaves himself before the enemy, runs away, or shamefully abandons any fort, post, or guard, which he is commanded to defend, or speaks words inducing others to do the like, or casts away his arms or ammunition, or quits his post or colors to plunder or pillage, shall suffer death, or such other punishment as a court martial may direct.

ART. 43. If any commander of any garrison, fortress, or post, is compelled, by the officers and soldiers under his command, to give up to the enemy or to abandon it, the officers or soldiers so offending shall suffer death or such other punishment as a court martial may direct.

ART. 44. Any person belonging to the armies of the United States who makes known the watchword to any person not entitled to receive it, according to the rules and discipline of war, or presumes to give a parole or watchword different from that which he received, shall suffer death, or such other punishment as a court martial may direct.

ART. 45. Whosoever relieves the enemy with money, victuals, or ammunition, or knowingly harbors or protects an enemy, shall suffer death, or such other punishment as a court martial may direct.

ART. 46. Whosoever hold correspondence with, or gives intelligence to the enemy, either directly or indirectly, shall suffer death, or such other punishment as a court martial may direct.

ART. 47. Any officer or soldier who, having received pay, or having

been duly enlisted in the service of the United States, deserts the same, shall, in time of war, suffer death, or such other punishment as a court martial may direct; and in time of peace, any punishment, excepting death, which a court martial may direct.

ART. 48. Every soldier who deserts the service of the United States shall be liable to serve for such period as shall, with the time he may have served previous to his desertion, amount to the full term of his enlistment; and such soldier shall be tried by a court martial and punished, although the term of his enlistment may have elapsed previous to his being apprehended and tried.

ART. 49. Any officer who, having tendered his resignation, quits his post or proper duties, without leave, and with intent to remain permanently absent therefrom, prior to due notice of the acceptance of the same, shall be deemed and punished as a deserter.

ART. 50. No non-commissioned officer or soldier shall enlist himself in any other regiment, troop, or company without a regular discharge from the regiment, troop, or company in which he last served, on a penalty of being reputed a deserter, and suffering accordingly. And in case any officer shall knowingly receive and entertain such non-commissioned officer or soldier, or shall not, after his being discovered to be a deserter, immediately confine him and give notice thereof to the corps in which he last served, the said officer shall, by a court-martial, be cashiered.

ART. 51. Any officer or soldier who advises or persuades any other officer or soldier to desert the service of the United States, shall, in time of war, suffer death, or such other punishment as a court martial may direct; and in time of peace, any punishment, excepting death, which a court martial may direct.

ART. 52. It is earnestly recommended to all officers and soldiers diligently to attend divine service. Any officer who behaves indecently or irreverently at any place of divine worship shall be brought before a general court martial, there to be publicly and severely reprimanded by the president thereof. Any soldier who so offends shall, for his first offence, forfeit one-sixth of a dollar; for each further offence he shall forfeit a like sum, and shall be confined twenty-four hours. The money so forfeited shall be deducted from his next pay, and shall be applied, by the captain or senior officer of his troop, battery, or company, to the use of the sick soldiers of the same.

ART. 53. Any officer who uses any profane oath or execration shall, for each offence, forfeit and pay one dollar. Any soldier who so offends shall incur the penalties provided in the preceding article; and all moneys forfeited for such offences shall be applied as therein provided.

ART. 54. Every officer commanding in quarters, garrison, or on the march, shall keep good order, and to the utmost of his power, redress all abuses or disorders which may be committed by any officer or soldier under his command; and if, upon complaint made to him of officers or

soldiers beating or otherwise ill-treating any person, disturbing fairs or markets, or committing any kind of riot, to the disquieting of the citizens of the United States, he refuses or omits to see justice done to the offender, and reparation made to the party injured, so far as part of the offender's pay shall go toward such reparation, he shall be dismissed from the service, or otherwise punished, as a court martial may direct.

ART. 55. All officers and soldiers are to behave themselves orderly in quarters and on the march; and whoever commits any waste or spoil, either in walks or trees, parks, warrens, fish-ponds, houses, gardens, grain-fields, inclosures, or meadows, or maliciously destroys any property whatsoever belonging to inhabitants of the United States (unless by order of a general officer commanding a separate army in the field), shall, besides such penalties as he may be liable to by law, be punished as a court martial may direct.

ART. 56. Any officer or soldier who does violence to any person bringing provisions or other necessities to the camp, garrison, or quarters of the forces of the United States in foreign parts, shall suffer death, or such other punishment as a court martial may direct.

ART. 57. Whosoever, belonging to the Armies of the United States in foreign parts, or at any place within the United States or their Territories during rebellion against the supreme authority of the United States, forces a safeguard, shall suffer death.

ART. 58. In time of war, insurrection, or rebellion, larceny, robbery, burglary, arson, mayhem, manslaughter, murder, assault and battery with intent to kill, wounding, by shooting or stabbing, with an intent to commit murder, rape, or assault and battery with an intent to commit rape, shall be punishable by the sentence of a general court martial, when committed by persons in the military service of the United States, and the punishment in any such case shall not be less than the punishment provided, for the like offence, by the laws of the State, Territory, or District in which such offence may have been committed.

ART. 59. When any officer or soldier is accused of a capital crime, or of any offence against the person or property of any citizen of any of the United States, which is punishable by the laws of the land, the commanding officer, and the officers of the regiment, troop, battery, company, or detachment to which the person so accused belongs, are required, except in time of war, upon application duly made by or in behalf of the party injured, to use their utmost endeavors to deliver him over to the civil magistrate, and to aid the officers of justice in apprehending and securing him, in order to bring him to trial. If, upon such application, any officer refuses or willfully neglects, except in time of war, to deliver over such accused person to the civil magistrates, or to aid the officers of justice in apprehending him, he shall be dismissed from the service.

ART. 60. Any person in the military service of the United States who makes or causes to be made any claim against the United States, or any officer thereof, knowing such claim to be false or fraudulent; or

Who presents or causes to be presented to any person in the civil or military service thereof, for approval or payment, any claim against the United States, or any officer thereof, knowing such claim to be false or fraudulent; or

Who enters into any agreement or conspiracy to defraud the United States by obtaining, or aiding others to obtain, the allowance or payment of any false or fraudulent claim; or

Who, for the purpose of obtaining, or aiding others to obtain, the approval, allowance, or payment of any claim against the United States or against any officer thereof, makes or uses, or procures or advises the making or use of, any writing, or other paper, knowing the same to contain any false or fraudulent statement; or

Who, for the purpose of obtaining, or aiding others to obtain, the approval, allowance, or payment of any claim against the United States or any officer thereof, makes, or procures or advises the making of, any oath to any fact or to any writing or other paper, knowing such oath to be false; or

Who, for the purpose of obtaining, or aiding others to obtain, the approval, allowance, or payment of any claim against the United States or any officer thereof, forges or counterfeits, or procures or advises the forging or counterfeiting of any signature upon any writing other paper, or uses, or procures or advises the use of, any such signature, knowing the same to be forged or counterfeited; or

Who, having charge, possession, custody or control of any money or other property of the United States, furnished or intended for the military service thereof, knowingly delivers, or causes to be delivered, to any person having authority to receive the same, any amount thereof less than that for which he receives a certificate or receipt; or

Who, being authorized to make or deliver any paper certifying the receipt of any property of the United States, furnished or intended for the military service thereof, makes or delivers to any person such writing, without having full knowledge of the truth of the statements therein contained, and with intent to defraud the United States; or who steals, embezzles, knowingly and wilfully misappropriates, applies to his own use or benefit, or wrongfully or knowingly sells or disposes of any ordnance, arms, equipments, ammunition, clothing, subsistence stores, money, or other property of the United States furnished or intended for the military service thereof; or

Who knowingly purchases, or receives in pledge for any obligation or indebtedness, from any soldier, officer, or other person who is a part of or employed in said forces or service, any ordnance, arms, equipments, ammunition, clothing, subsistence stores, or other property of the United States, such soldier, officer, or other person not having lawful right to sell or pledge the same;

Shall, on conviction thereof, be punished by fine or imprisonment, or by such other punishment as a court martial may adjudge. And if any person, being guilty of any of the offenses aforesaid, while in the mili-

tary service of the United States, receive his discharge, or is dismissed from the service, he shall continue to be liable to be arrested and held for trial and sentenced by a court-martial in the same manner and to the same extent as if he had not received such discharge nor been dismissed.

ART. 61. Any officer who is convicted of conduct unbecoming an officer and a gentleman shall be dismissed from the service.

ART. 62. All crimes not capital, and all disorders and neglects, which officers and soldiers may be guilty of, to the prejudice of good order and military discipline, though not mentioned in the foregoing articles of war, are to be taken cognizance of by a general, or a regimental, garrison, or field officers' court martial, according to the nature and degree of the offense, and punished at the discretion of such court.

ART. 63. All retainers to the camp, and all persons serving with the armies of the United States in the field, though not enlisted soldiers, are to be subject to orders, according to the rules and discipline of war.

ART. 64. The officers and soldiers of any troops, whether militia or others, mustered and in pay of the United States, shall at all times and in all places, be governed by the articles of war, and shall be subject to be tried by courts martial.

ART. 65. Officers charged with crime shall be arrested and confined in their barracks, quarters, or tents, and deprived of their swords by the commanding officer. And any officer who leaves his confinement before he is set at liberty by his commanding officer shall be dismissed from the service.

ART. 66. Soldiers charged with crimes shall be confined until tried by court martial, or released by proper authority.

ART. 67. No provost marshal, or officer commanding a guard, shall refuse to receive or keep any prisoner committed to his charge by an officer belonging to the forces of the United States; provided the officer committing shall, at the same time, deliver an account in writing, signed by himself, of the crime charged against the prisoner.

ART. 68. Every officer to whose charge a prisoner is committed shall, within twenty-four hours after such commitment, or as soon as he is relieved from his guard, report in writing, to the commanding officer, the name of such prisoner, the crime charged against him, and the name of the officer committing him; and if he fails to make such report, he shall be punished as a court martial may direct.

ART. 69. Any officer who presumes, without proper authority, to release any prisoner committed to his charge, or suffers any prisoner so committed to escape, shall be punished as a court martial may direct.

ART. 70. No officer or soldier put in arrest shall be continued in confinement more than eight days, or until such time as a court martial can be assembled.

ART. 71. When an officer is put in arrest for the purpose of trial, except at remote military posts or stations, the officer by whose order he is arrested shall see that a copy of the charges on which he is to be tried is served upon him within eight days after his arrest, and that he is brought to trial within ten days thereafter, unless the necessities of the service prevent such trial; and then he shall be brought to trial within thirty days after the expiration of said ten days. If a copy of the charges be not served, or the arrested officer be not brought to trial, as herein required, the arrest shall cease. But officers released from arrest, under the provisions of this article, may be tried, whenever the exigencies of the service shall permit, within twelve months after such release from arrest.

ART. 72. Any general officer, commanding the Army of the United States, a separate Army, or a separate department, shall be competent to appoint a general court martial, either in time of peace or in time of war. But when any such commander is the accuser or prosecutor of any officer under his command, the court shall be appointed by the President, and its proceedings and sentence shall be sent directly to the Secretary of War, by whom they shall be laid before the President, for his approval or orders in the case.

ART. 73. In time of war the commander of a division, or of a separate brigade of troops, shall be competent to appoint a general court martial. But when such commander is the accuser or prosecutor of any person under his command, the court shall be appointed by the next higher commander.

ART. 74. Officers who may appoint a court martial shall be competent to appoint a Judge Advocate for the same.

ART. 75. General courts martial may consist of any number of officers from five to thirteen, inclusive; but they shall not consist of less than thirteen when that number can be convened without manifest injury to the service.

ART. 76. When the requisite number of officers to form a general court martial is not present in any post or detachment, the commanding officer shall, in cases which require the cognizance of such a court, report to the commanding officer of the department, who shall, thereupon, order a court to be assembled at the nearest post or department at which there may be such a requisite number of officers, and shall order the party accused, with necessary witnesses, to be transported to the place where the said court shall be assembled.

ART. 77. Officers of the Regular Army shall not be competent to sit on courts martial to try the officers or soldiers of other forces, except as provided in Article 78.

ART. 78. Officers of the Marine Corps, detached for service with the Army, by order of the President, may be associated with officers of the Regular Army on courts martial for the trial of offenders belonging to the Regular Army, or to forces of the Marine Corps so detached; and in such cases the orders of the senior officer of either corps, who may be present and duly authorized, shall be obeyed.

ART. 79. Officers shall be tried only by general courts martial; and no officer shall, when it can be avoided, be tried by officers inferior to him in rank.

ART. 80. In time of war a field officer may be detailed in every regiment, to try soldiers thereof for offences not capital; and no soldier serving with his regiment, shall be tried by a regimental or garrison court martial when a field officer of his regiment may be so detailed.

ART. 81. Every officer commanding a regiment or corps shall, subject to the provisions of article eighty, be competent to appoint, for his own regiment or corps, courts martial, consisting of three officers, to try offences not capital.

ART. 82. Every officer commanding a garrison, fort, or other place, where the troops consist of different corps, shall, subject to the provisions of article eighty, be competent to appoint, for such garrison or other place, courts martial, consisting of three officers, to try offences not capital.

ART. 83. Regimental and garrison courts martial, and field officers detailed to try offenders, shall not have power to try capital cases or commissioned officers, or to inflict a fine exceeding one month's pay, or to imprison or put to hard labor any non-commissioned officer or soldier for a longer time than one month.

ART. 84. The Judge Advocate shall administer to each member of the court, before they proceed upon any trial, the following oath, which shall also be taken by all members of regimental and garrison courts martial: "You, A. B., do swear that you will well and truly try and determine, according to the evidence, the matter now before you, between the United States of America and the prisoner to be tried, and that you will duly administer justice, without partiality, favor, or affection, according to the provisions of the rules and articles for the government of the armies of the United States, and if any doubt should arise, not explained by said articles, then according to your conscience, the best of your understanding, and the custom of war in like cases; and you do further swear that you will not divulge the sentence of the court until it shall be published by the proper authority; neither will you disclose or discover the vote or opinion of any particular member of the court martial, unless required to give evidence thereof, as a witness by a court of justice, in a due course of law. So help you God."

ART. 85. When the oath has been administered to the members of a court martial, the president of the court shall administer to the Judge Advocate, or person officiating as such, an oath in the following form: "You, A. B., do swear that you will not disclose or discover the vote or opinion of any particular member of the court martial, unless required to give evidence thereof, as a witness, by a court of justice, in due course of law, nor divulge the sentence of the court to any but the proper authority until it shall be duly disclosed by the same. So help you God."

ART. 86. The court martial may punish, at discretion, any person who uses any menacing words, signs, or gestures in its presence, or who disturbs its proceedings by any riot or disorder.

ART. 87. All members of a court martial are to behave with decency and calmness.

ART. 88. Members of a court martial may be challenged by a prisoner, but only for cause stated to the court. The court shall determine the relevancy and validity thereof, and shall not receive a challenge to more than one member at a time.

ART. 89. When a prisoner, arraigned before a general court martial, from obstinacy and deliberate design, stands mute, or answers foreign to the purpose, the court may proceed to trial and judgment, as if the prisoner had pleaded not guilty.

ART. 90. The judge-advocate, or some person deputed by him, or by the general or officer commanding the Army, detachment, or garrison, shall prosecute in the name of the United States; but when the prisoner has made his plea, he shall so far consider himself counsel for the prisoner as to object to any leading question to any of the witnesses, and to any question to the prisoner, the answer to which might tend to criminate himself.

ART. 91. The deposition of witnesses residing beyond the limits of the State, Territory, or district in which any military court may be ordered to sit, if taken on reasonable notice to the opposite party and duly authenticated, may be read in evidence before such court in cases not capital.

ART. 92. All persons who give evidence before a court martial shall be examined on oath, or affirmation, in the following form: "You swear (or affirm) that the evidence you shall give in the case now in hearing, shall be the truth, the whole truth, and nothing but the truth. So help you God."

ART. 93. A court martial shall, for reasonable cause, grant a continuance to either party, for such time, and as often as may appear to be just: *Provided*, That if the prisoner be in close confinement the trial shall not be delayed for a period longer than sixty days.

ART. 94. Proceedings of trials shall be carried on only between the hours of eight in the morning and three in the afternoon, excepting in cases which in the opinion of the officers appointing the court, require immediate example.

ART. 95. Members of a court martial, in giving their votes, shall begin with the youngest in commission.

ART. 96. No person shall be sentenced to suffer death, except by the concurrence of two-thirds of the members of a general court martial, and in the cases herein expressly mentioned.

ART. 97. No person in the military service shall, under the sentence of a court martial, be punished by confinement in a penitentiary, unless the offense of which he may be convicted would, by some statute of the United States, or by some statute of the State, Territory, or District in

which such offense may be committed, or by the common law, as the same exists in such State, Territory, or District, subject to such punishment.

ART. 98. No person in the military service shall be punished by flogging, or by branding, marking, or tattooing on the body.

ART. 99. No officers shall be discharged or dismissed from the service, except by order of the President, or by sentence of a general court martial; and in time of peace no officer shall be dismissed, except in pursuance of the sentence of a court martial, or in mitigation thereof.

ART. 100. When an officer is dismissed from the service for cowardice or fraud, the sentence shall further direct that the crime, punishment, name, and place of abode of the delinquent shall be published in the newspapers in and about the camp, and in the State from which the offender came, or where he usually resides; and after such publication it shall be scandalous for an officer to associate with him.

ART. 101. When a court martial suspends an officer from command, it may also suspend his pay and emoluments for the same time, according to the nature of his offence.

ART. 102. No person shall be tried a second time for the same offense.

ART. 103. No person shall be liable to be tried and punished by a general court martial for any offense which appears to have been committed more than two years before the issuing of the order for such trial, unless, by reason of having absented himself, or of some other manifest impediment, he shall not have been amenable to justice within that period.

ART. 104. No sentence of a court martial shall be carried into execution until the whole proceedings shall have been approved by the officer ordering the court, or by the officer commanding for the time being.

ART. 105. No sentence of a court martial, inflicting the punishment of death, shall be carried into execution until it shall have been confirmed by the President, except in the cases of persons convicted, in time of war, as spies, mutineers, deserters, or murderers, and in the cases of guerilla marauders, convicted, in time of war, of robbery, burglary, arson, rape, assault with intent to commit rape, or of violation of the laws and customs of war; and in such excepted cases the sentence of death may be carried into execution upon confirmation by the commanding general in the field, or the commander of the department, as the case may be.

ART. 106. In time of peace no sentence of a court martial, directing the dismissal of an officer, shall be carried into execution until it shall have been confirmed by the President.

ART. 107. No sentence of a court martial appointed by the commander of a division or of a separate brigade of troops, directing the dismissal of an officer, shall be carried into execution until it shall have been confirmed by the general commanding the army in the field to which the division or brigade belongs.

ART. 108. No sentence of a court martial, either in time of peace or in time of war, respecting a general officer, shall be carried into execution until it shall have been confirmed by the President.

ART. 109. All sentences of a court martial may be confirmed and carried into execution by the officer ordering the court, or by the officer commanding for the time being, where confirmation by the President, or by the commanding general in the field, or the commander of the department, is not required by these articles.

ART. 110. No sentence of a field officer detailed to try soldiers of his regiment, shall be carried into execution until the whole proceedings shall have been approved by the brigade commander, or, in case there shall be no brigade commander, by the commanding officer of the post.

ART. 111. Any officer who has authority to carry into execution the sentence of death, or of dismissal of an officer, may suspend the same until the pleasure of the President shall be known; and, in such case, he shall immediately transmit to the President a copy of the order of suspension, together with a copy of the proceedings of the court.

ART. 112. Every officer who is authorized to order a general court martial shall have power to pardon or mitigate any punishment adjudged by it, except the punishment of death or of dismissal of an officer. Every officer commanding a regiment or garrison in which a regimental or garrison court martial may be held, shall have power to pardon or mitigate any punishment which such court may adjudge.

ART. 113. Every Judge Advocate, or person acting as such, at any general court martial, shall, with as much expedition as the opportunity of time and distance of place may admit, forward the original proceedings and sentence of such court to the Judge Advocate General of the Army, in whose office they shall be carefully preserved.

ART. 114. Every party tried by a general court martial shall, upon demand thereof, made by himself or by any person in his behalf, be entitled to a copy of the proceedings and sentence of such court.

ART. 115. A court of inquiry, to examine into the nature of any transaction of, or accusation or imputation against, any officer or soldier, may be ordered by the President or by any commanding officer; but, as courts of inquiry may be perverted to dishonorable purposes, and may be employed, in the hands of weak and envious commandants, as engines for the destruction of military merit, they shall never be ordered by any commanding officer except upon a demand by the officer or soldier whose conduct is to be inquired of.

ART. 116. A court of inquiry shall consist of one or more officers, not exceeding three, and a recorder to reduce the proceedings and evidence to writing.

ART. 117. The recorder of a court of inquiry shall administer to the members the following oath: "You shall well and truly examine and inquire, according to the evidence, into the matter now before you, without partiality, favor, affection, prejudice, or hope of reward. So

help you God." After which the president of the court shall administer to the recorder the following oath: "You, A B, do swear that you will, according to your best abilities, accurately and impartially record the proceedings of the court and the evidence to be given in the case in hearing. So help you God."

ART. 118. A court of inquiry, and the recorder thereof, shall have the same power to summon and examine witnesses as is given to courts martial and the Judge Advocates thereof. Such witnesses shall take the same oath which is taken by witnesses before courts martial (*), and the party accused shall be permitted to examine and cross-examine them, so as fully to investigate the circumstances in question.

ART. 119. A court of inquiry shall not give an opinion on the merits of the case inquired of unless specially ordered to do so.

ART. 120. The proceedings of a court of inquiry must be authenticated by the signatures of the recorder and the president thereof, and delivered to the commanding officer.

ART. 121. The proceedings of a court of inquiry may be admitted as evidence by a court martial, in cases not capital, nor extending to the dismissal of an officer: *Provided*, That the circumstances are such that oral testimony cannot be obtained.

ART. 122. If, upon marches, guards, or in quarters, different corps of the Army happen to join or do duty together, the officer highest in rank of the line of the Army, Marine Corps, or militia, by commission, there on duty or in quarters, shall command the whole, and give orders for what is needful to the service, unless otherwise specially directed by the President, according to the nature of the case.

ART. 123. In all matters relating to the rank, duties, and rights of officers, the same rules and regulations shall apply to officers of the Regular Army and to volunteers commissioned in or mustered into said service, under the laws of the United States, for a limited period.

ART. 124. Officers of the militia of the several States, when called into the service of the United States, shall, on all detachments, courts martial, and other duty wherein they may be employed in conjunction with the regular or volunteer forces of the United States, take rank next after all officers of the like grade in said regular or volunteer forces, notwithstanding the commissions of such militia officers may be older than the commissions of the said officers of the regular or volunteer forces of the United States.

ART. 125. In case of the death of any officer, the major of his regiment, or the officer doing the major's duty, or the second officer in command at any post or garrison, as the case may be, shall immediately secure all his effects then in camp or quarters, and shall make, and transmit to the office of the Department of War, an inventory thereof.

ART. 126. In case of the death of any soldier, the commanding officer of his troop, battery, or company, shall immediately secure all his effects

**Sic* in the roll.

then in camp or quarters, and shall, in the presence of two other officers, make an inventory thereof, which he shall transmit to the office of the Department of War.

ART. 127. Officers charged with the care of the effects of deceased officers or soldiers shall account for and deliver the same, or the proceeds thereof, to the legal representatives of such deceased officers or soldiers. And no officer so charged shall be permitted to quit the regiment or post until he has deposited in the hands of the commanding officer all the effects of such deceased officers or soldiers not so accounted for and delivered.

ART. 128. The foregoing articles shall be read and published once in every six months to every garrison, regiment, troop, or company in the service of the United States, and shall be duly observed and obeyed by all officers and soldiers in said service.

SEC. 1343. All persons who, in time of war, or rebellion against the supreme authority of the United States, shall be found lurking or acting as spies, in or about any of the fortifications, posts, quarters, or encampments of any of the armies of the United States, or elsewhere, shall be triable by a general court martial, or by a military commission, and shall, on conviction thereof, suffer death.

CHAPTER X.

CAMP AND GARRISON CALLS.

OFFICIAL CORRESPONDENCE AND ORDERS.

RECRUITING SERVICE.

LEAVES OF ABSENCE AND FURLONGHS.

DISCHARGES.

BOARDS OF SURVEY.

COUNCILS OF ADMINISTRATION.

INSPECTIONS.

CERTIFICATES OF MERIT.

CAMP AND GARRISON CALLS.

All garrison and camp life is about the same in routine.

Reveille is the name given to the first call for the formation of troops during the day. This formation is for the purpose of calling the roll of the company, and is announced by the firing of a piece of ordnance, the beating of drums or sounding of bugle notes, and takes place at daylight, unless otherwise ordered by the commanding officer.

Stable Call is next in order for mounted troops, and is sounded immediately after the report of the result of the reveille roll-call is made. Mounted troops turn out at reveille roll-call in stable frocks and overalls, in order that as soon as reveille is over they may be marched direct to the stables to groom their animals.

Breakfast call comes next, and is sounded at such time as the commanding officer deems proper, generally half an hour after reveille.

Fatigue Call is the signal for all labor to commence at the post, and is generally fixed at 7 o'clock a. m. in summer, and 7½ or 8 o'clock in winter.

Sick Call is the signal for all soldiers who may be sick to repair to the post hospital for examination by the surgeon, and the hour for its sounding fixed a short while before or at the same time as "Fatigue Call."

Orderly Call, whenever sounded, is the signal for all First Sergeants to repair to the Adjutant's Office.

Officers' Call is the signal for all officers to repair at once to the Commanding Officer's office.

Retreat is a roll-call that marks the close of the working-day, and takes place at sunset. The troops are paraded (with arms, generally, in fair weather), the bugles or drums sound the retreat, the evening gun is fired, and the flag hauled down from the flag-staff.

Tattoo is the signal for the roll-call of troops preparatory to going to bed, about 8½ or 9 o'clock p. m.

Taps is the signal that all lights must be put out, except those authorized by the officer of the day or the commanding officer, and are sounded about half an hour after tattoo.

Between Reveille and Retreat, all the drills, practice, fatigue and police calls, are sounded at such times as may be ordered by the Post or Camp Commander.

Recruiting Service.

The United States Army is kept up to its numerical standard by a system termed recruiting, of which the Adjutant General of the Army is the head and director, assisted by such officers as will be hereinafter mentioned, under such orders as may be from time to time given governing the same.

The headquarters of the General Recruiting Service are located in New York City, and a Colonel of Infantry is usually selected to take charge of the same for two years.

There are also two recruiting depots—the general, at David's Island, New York harbor; and the sub-depot, at Columbus, Ohio. To these two depots are sent all men that are enlisted for the general service, except as hereinafter mentioned.

At different points throughout the country (in peace times, only the largest cities), recruiting rendezvous are established for the purpose of enlisting such men as present themselves, after having passed a satisfactory physical examination. These rendezvous are in charge of officers detailed from the different regiments in the service to report to the superintendent for this duty, and the officers are assisted by a sergeant and two privates.

Upon the presentation of a man at a recruiting rendezvous, he is examined as to his moral and physical condition, and if found satisfactory, the following paper is made out, which he must sign :

THE UNITED STATES OF AMERICA.

OATH OF ENLISTMENT AND ALLEGIANCE.

State of *New York*, }
City or Town of *Albany*, } ss.:

I, *James Deland*, born in *Melrose*, in the State of *New Jersey*, and by occupation a *machinist*, do hereby acknowledge to have voluntarily enlisted, this *first* day of *March*, 1880, as a SOLDIER in the ARMY OF THE UNITED STATES OF AMERICA, for the period of FIVE YEARS, unless sooner discharged by proper authority: And do also agree to accept from the United States such bounty, pay, rations, and clothing as are or may be established by law. And I do solemnly swear that I am *twenty-one* years and *six* months of age, and know of no impediment to my serving honestly and faithfully as a Soldier for five years under this enlistment contract with the United States. And I, *James Deland*, do also solemnly swear that I will bear true faith and allegiance to the UNITED STATES OF AMERICA, and that I will serve them honestly and faithfully against all their enemies or opposers whomsoever; and that I will observe and obey the orders of the President of the United States, and the orders of the officers appointed over me, according to the Rules and Articles of War.

JAMES DELAND. [SEAL.]

Subscribed and duly sworn to before me this *first* day of *March*, A. D. 1880.

ORLANDO B. CORNESTALDT,
Capt. 47th Infantry,
Recruiting Officer.

I CERTIFY, ON HONOR, that I have carefully examined the above-named man, *James Deland*, agreeably to the General Regulations of the Army, and that, in my opinion, he is free from all bodily defects and mental infirmity which would, in any way, disqualify him from performing the duties of a soldier.

ROCHEFORDT B. BATEMAN,
A. A. Surgeon, U. S. Vols.,
Examining Officer.

I CERTIFY, ON HONOR, that I have minutely inspected the above-named man, *James Deland*, previous to his enlistment, and that he was entirely sober when enlisted; that, to the best of my judgment and belief, he is of lawful age; and that I have accepted and enlisted him into the service of the United States under this contract of enlistment as duly qualified to perform the duties of an able-bodied soldier, and, in doing so, have strictly observed the Regulations which govern the Recruiting Service. This soldier has *black* eyes, *brown* hair, *fair* complexion, is *5* feet, *8* inches high.

ORLANDO B. CORNESTALDT, [SEAL.]
Capt. 47th Infantry,
Recruiting Officer.

(A. G. O. No. 73.)

NOTE.—Scars and Marks found upon the person of a Recruit will be here noted: *A slight inclination to strabismus, insufficient, however, to interfere with the vision.*

DECLARATION OF RECRUIT.

I, *James Deland*, desiring to ENLIST in the ARMY OF THE UNITED STATES for the term of FIVE YEARS, DO DECLARE that I have neither wife nor child; that I am of the legal age to enlist of my own accord, and believe myself to be physically qualified to perform the duties of an able-bodied soldier; and do further declare that I have never been discharged from the United States service (Army or Navy) or any other service on account of disability, or by sentence of either civil or military court, or in any case except with good character, and for the reasons given by me to the recruiting officer prior to this enlistment.

GIVEN at *Albany, N. Y.*, this *first* day of *March*, 188*o*.

WITNESS:

John Comings,
Caleb Harkness.

JAMES DELAND.

No.
James Deland enlisted at *Albany, N. Y.*, on the *1st*
day of *March*, 188*o*, by *Capt. O. B. Cornestadt*,
47th Regiment of Infantry.

. . . enlistment; last served in Company (. . .)
. Regiment of
Discharged, 18

DIRECTIONS.

Enlistments for the General Service must, in all cases, be made in triplicate. The recruiting officer will send one copy to the Adjutant General with his monthly accounts, a second to the Superintendent with his monthly return, and a third to the depot at the time the recruits are sent there. In cases of soldiers re-enlisted in a regiment, or of regimental recruits, two copies only will be made, which will be forwarded to regimental headquarters—one copy for file, the other to accompany the monthly regimental recruiting return.

N. B.—In cases of Re-enlistment, the declaration of recruit will not be filled in, but it will be stated on the margin whether the soldier is single or married, and the number of children, if any. The prefix "re-" will be added to the word "enlisted" where it occurs, and the assignment to Company and Regiment filled in below.

Received A. G. O.
Assigned to Company " Regiment
of, U. S. Army.

CONSENT IN CASE OF MINOR.

I, DO CERTIFY that I am the
of; that the said is
years of age; and I do hereby freely give MY CONSENT to his enlisting
as a SOLDIER in the ARMY OF THE UNITED STATES for the period of
FIVE YEARS.

GIVEN at
the . . . day of

WITNESS:

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The men thus enlisted become *recruits*, and are clothed in the United States Army uniform, and fed; and when three or four are collected (in time of peace), they are forwarded, in charge of one of the recruiting party, to the nearest depot—New York or Columbus.

The recruits are placed under instructions at the depots, and when sufficiently drilled, organized into companies, from which, under orders from the War Department, they are sent to fill vacancies in such regiments as need them.

The recruiting depots are commanded by field officers of the line, detailed for this duty by the Adjutant General of the Army.

All details for the recruiting service are for two years, the company officers from the odd-numbered regiments being detailed one year, and the even-numbered the succeeding year, in order that all officers on this duty may not be relieved at the same time. Each regiment of infantry and cavalry in the service furnishes one company officer for this duty.

In addition to the above, there is an independent branch for the recruitment of the Cavalry arm of the service. The headquarters of this service are located at Jefferson Barracks, Mo., and a Colonel of Cavalry is detailed as superintendent. Stations are established for the enlistment of men at suitable points, and all matters pertaining to the service are conducted on the same principles as above described, except that recruits after enlistment are sent to the Cavalry depot, which is also located at Jefferson Barracks.*

In time of war, the recruiting for the regular service is continued the same as in time of peace; but when the necessity occurs for a greater force than the law allows for the permanent troops, then Congress, if not already assembled, is called into an extra session by the President, and that body designates by enactment the number of volunteers to be called into service. The President of the United States thereupon issues a proclamation calling upon the States for volunteers. The Governors of the various

* Since the above was written the recruiting service has been consolidated, with but one superintendent, with headquarters at New York city. (See G. O. No. 39, Hdqrs. Army, June 22, 1886.)

States of the Union establish their own recruiting stations and State depots, and organize their forces into regiments, equip them, appoint their officers, and, upon notification that they are ready for United States duty, an officer of the regular army is sent to *muster* them into the United States service for the length of time required under the call. They then belong to the General Government for all duty until properly discharged from the United States service.

By the laws of the United States, all able-bodied males between the ages of 18 and 45 years are enrolled as militia, and, in case of necessity, any or all are liable to be called upon, and must serve the country in a military capacity if called on to do so.

To enlist in the regular army, there are certain conditions to be fulfilled, as regards health, size, weight, age and character, which vary somewhat for the different arms of service. These conditions are rules established by the Department which supplies recruits for the army, and is therefore known as the "Recruiting Service."

In the State militia the conditions of enlistment vary considerably, and are different in each State. In some, the term of enlistment is but three years, and companies, battalions and regiments are local in character, their members being citizens living in the vicinity in which the organization is stationed.

After a man has once joined as a recruit, he cannot leave the service until his time of enlistment has expired, unless he is discharged for good and sufficient reason, by competent authority. Should he leave at any time during his service without a proper discharge, he becomes a *deserter*, and as such is liable to the punishment of death in time of war, and hard labor and imprisonment in time of peace.

Retired List.

As a reward for faithful service, the Government has established for the Army, both officers and soldiers, a retired list, and any soldier who has served the country 30 years

may, at his request, be retired on three-fourths of the pay and allowances that he is receiving at the date of his retirement.

Any officer who may have incurred a disability incident to the service may, upon the recommendation of a Board of Officers convened for the purpose, be placed upon the retired list, provided a vacancy exists for the same. This list, however, is limited to four hundred.

Any officer who may have served for 40 years continuously, will, upon his application, be placed upon this list by the President of the United States, if a vacancy exists.

Any officer who may have served until he reaches the age of 64 years shall be placed upon a retired list which is unlimited.

Any officer who may be found incapacitated for military service by a Board of Officers convened for the purpose, and said incapacity the result of his own indiscretions, may be "wholly retired"—that is, granted one year's pay, and his name dropped from the rolls of the Army.

All officers or soldiers borne on the rolls as retired are to be considered as still belonging to the service, and although not, under the present laws, eligible to be called upon for duty, yet are liable at any time, by resolution of Congress, to be called upon to perform such duties as their disabilities may permit them to assume.

Officers, when placed on the retired list, receive three-fourths of the pay to which they are entitled at date of retirement.

Official Correspondence and Orders.

All communications passing from an inferior to a superior should be signed by the inferior; but communications passing from a superior to an inferior may be signed by a staff officer by order of the superior. On subjects not exclusively personal, all officers should be addressed as "The Adjutant General U. S. Army," "Commanding Officer Military Division of the Mo.," "Commanding Officer 4th U. S. Inf.," "Commanding Officer Company 'G,' 20th Inf.," etc.

An inferior addressing a letter to higher authority should address it to the Adjutant or Adjutant General of the nearest commander, thus: "Post Adjutant, Fort Dismal," "Assistant Adjutant General, Department of Arizona," etc., etc.

In addressing an officer personally, the title, such as "Captain," "Major," "Colonel," or "General," should precede the name; but when affixing the official signature the rank and name of the regiment or corps should follow the signatures in a line underneath.

LETTERS.

All letters should comprise either of the following forms:

HEADQUARTERS OF THE ARMY,
ADJUTANT GENERAL'S OFFICE,
June 1, 1884.

*Commanding General,
Division of the Missouri,
Chicago, Ills.*

SIR: By direction of the Lieut. General of the Army, I have the honor, etc., etc.

* * * * *

Very respectfully,

Your obedient servant,

R. C. DRUM,
Adjutant General.

Again, from a superior to an inferior:

HEADQUARTERS MILITARY DIVISION OF THE MO.,
CHICAGO, ILLS., June 25, 1885.

*Commanding Officer,
Fort Omaha, Neb.,*

(Through C. O. Department of the Platte.)

SIR: You will please cause one Major, etc.

* * * * *

By command of Major Gen. Schofield:

R. WILLIAMS,
Asst. Adj't General.

From an inferior to a superior:

FORT BLANK, MINN.,
May 1, 1884.

*Assistant Adjutant General,
Department of Dakota,
Fort Snelling, Minn.*

(Through military channels.)

SIR: I have the honor to apply for leave of absence for ten days.

I am, Sir, very respectfully,

Your obedient servant,

THOMAS BROWN,
1st Lieut. 14th Inf'y.

All communications of this character that terminate in the office where first received, should be briefed and filed away, but those which require the action of higher authority must be briefed in the first office where received, and forwarded with proper endorsements, as follows:

1st Endorsement.

FORT BLANK, MINN.,
May 2, 1885.

Respectfully forwarded. Approved.

JOHN ROBINSON,
Col. 3d Art'y, Comd'g the Post.

2d Endorsement.

HEADQUARTERS DEP'T OF THE PLATTE,
OMAHA, NEB., Jan. 1, 1885.

Respectfully forwarded to the Headquarters Military Division of the Missouri. Approved (or disapproved, or such remarks as the case demands.)

O. B. DIXON,
Brig. Gen'l Comd'g Dep't.

Official letters should be written on regular sized letter paper, folded neatly in three equal folds, the top of the letter forming the outside fold, on the back of which the subject of the communication should be briefed, as follows:

FORT BLANK, MINN.,
May 1, 1884.

Thomas Brown,
1st Lieut. 14th Inf.

Applies for ten days'
leave of absence.

Generally, officers forwarding official communications, indorse thereon their views or opinions, without other letter of transmittal.

All official communications must be signed by the pen, and not by stamps, fac similes, etc.

Whenever more than three pages of the sheet used are required for the communication, an additional half sheet, or more if necessary, is neatly pasted to the first sheet, so that the outer page may be left entirely blank. Letter paper is folded in three, and legal cap in four folds, parallel to the writing. The inner edge of the sheet is the top fold, and the left-hand fold is the outer fold. The first fold has only the office marks on it, and a brief summary of the contents; while indorsements proper commence at the top of the second fold, and run down in regular order. Inclosures are numbered consecutively. If the communication covers one inclosure, it is numbered "1" above the office marks of the original letter. When an officer to whom it is referred incloses a paper in addition to his indorsement, the additional enclosure is numbered "2," and below the office marks is noted the *number*. Original inclosures are noted on the first fold of the letter, covering them, just below the brief, and below this are noted the inclosure of the several indorsements. The model form attached explains the communication, indorsement and inclosure.

If the inclosures are few in number, they may be kept inside the original paper. Otherwise, they are folded together in a wrapper marked "Inclosures," as an accompanying package. In no case should a loose wrapper be placed around an official paper, except as a mere covering on which nothing is written. Additional space for indorsements should be provided by neatly pasting on slips of paper on the under side of the fold, each slip when pasted on to be just the length and width of the original fold. In the form given, *W. D.* are the initials for War Department, *A. G. O.* are those of Adjutant General's Office, *E. B.*, Endorsement Book, while the numbers refer to the volume, and page and number of communication.

Fort

July . . . , 18 . . .

Sir :

[Acknowledges reference to him of anonymous letter making certain complaints, and furnishes evidence of falsity of charges contained therein. Is of opinion, after careful examination of the chirography of the communication, that a certain soldier, on duty as clerk at Department Headquarters, is the anonymous correspondent.]

W. L. E.,

Capt. Co. "A," 1st U. S.

The Commanding Officer,

Fort

ART OF WAR.

[*Endorsement.*]

2.

400 A. G. O. 1870.

(Fifth Indorsement.)

Fort
June 1, 18 . . .

To
The Honorable
The Secretary of War.

Sir :

[Complaints that certain officers at this post disregard the Regulations and inflict punishment arbitrarily. Does not send this paper through the proper channel of correspondence, as he fears the complaint would not be forwarded, but sends it to a friend in, who will give it the proper direction.]

A Private of Captain E's

Company ("A") 1st U. S.

1380	W. D.,	1886.
400	A. G. O.,	1886.
250	Div. of	1886.
187	Dept. of	1886.

Fort
June 1, 18 . . .

Captain W. L. E
1st U. S.

One of the privates of Captain E's Company complains anonymously of mode of punishment adopted by certain officers, &c., &c.

(One Enclosure.)

(One Enclosure—Fifth Indorsement.)

Rec'd back, A. G. O., July . . . , 1880.

Rec'd back, Div. of, July . . . , 1880.

Rec'd back, Dept. of, July . . . , 1880.

Rec'd, Dept. of, July . . . , 1880.

Rec'd Div. of, July . . . , 1880.

Rec'd, A. G. O., June . . . , 1880.

Rec'd, W. D., June . . . , 1880.

First Indorsement.

War Dept., June . . . , 18 . . .

Respectfully referred to the Adjutant General for investigation and report.
By order of the Sec. of War: *J. P., Chief Clerk.*

E. B. $\frac{2}{225}$

Second Indorsement.

Adjutant General's Office, June . . . , 18 . . .

Respectfully referred to the Commanding General, Department of
(through Division Headquarters) for a thorough investigation of this case.
E. D. T., Adjutant General.

E. B. $\frac{6}{810}$

Third Indorsement.

Hdgrs. Mil. Div. of , July . . . , 18 . . .

Respectfully referred to General S., commanding Department of
By order of Major General R. *S. H. W., Asst. Adj. Gen.*

E. B. $\frac{3}{340}$

Fourth Indorsement.

Hdgrs. Dept. of , July . . . , 18 . . .

Respectfully referred to the commanding officer of Fort , who will inquire into the assertions contained in the anonymous letter, and submit a full report on the subject.

By order of Brig. Genl. W : *J. B. D., Asst. Adj. Gen.*

E. B. $\frac{2}{125}$

Fifth Indorsement.

Fort , July . . . , 18 . . .

Respectfully returned to the General commanding the Department of , and his attention invited to the inclosed statement of Captain E. , commanding Company "A," 1st U. S. *C. F. B., Commanding Post.*

E. B. $\frac{1}{100}$

(One Enclosure.)

Sixth Indorsement.

Hdgrs. Dept. of , July . . . , 18 . . .

Respectfully returned to the Headquarters of the Army, through Headquarters Military Division of
The clerk at Dept. Headquarters emphatically denies any knowledge of the complaint or being concerned in the matter. *E. W. S., Brig. Gen. Commanding.*

E. B. $\frac{2}{314}$

Seventh Indorsement.

Hdgrs. Mil. Div. of , July . . . , 18 . . .

Respectfully forwarded. *G. H. R., Maj. Gen. Commanding.*

E. B. $\frac{3}{450}$

Eighth Indorsement.

Hdgrs. of the Army, July . . . , 18 . . .

Respectfully submitted to the Secretary of War for his information.
W. T. S., General of the Army.

E. B. $\frac{7}{24}$

Orders.

Orders issued in companies, regiments and posts should never be general or special ; they are simply designated as orders, and numbered according to the series of the year in which they are issued.

Orders issued by officers who have the rank of Colonel or less should be designated as "*by order of,*" while those issued by higher officers should be designated, "*by command of,*" and embrace both special and general, each being numbered in separate series.

The term "Headquarters" should never be used in the headings of any official organization of minor importance to the headquarters of a geographical department, except the headquarters of a regiment.

Orders are numbered General and Special, or simply "Orders," in separate series, each beginning with the year.

General orders announce the time and place of payments, issues, hours for roll-calls and duties, police regulations, promotions, appointments, and generally what may be important to be made known to the entire command. Special orders do not concern troops generally, but relate to particular divisions or individuals of them. General and important special orders must both be read and approved by the officer whose order it is, before issued and signed by a staff officer. Orders state at the head whether they are General, Special, their number, date, and place of issue, and at the foot the name of the commander making it an order. Orders and instructions will be transmitted through intermediate commanders, when they are of a nature that such commanders have no authority to modify or suspend them. The following are the forms used for orders and reports :

(1st.)

HEADQUARTERS OF THE ARMY,
WASHINGTON, D. C., *June —, —.*

General Orders, No. 6.

Par. I.—(The order follows on this and succeeding line.)

* * * * *

By command of GENERAL SHERMAN.

(Here signature of Adjutant General.)

Adjutant General.

(2d.) HEADQUARTERS DIVISION OF THE ATLANTIC,
GOVERNOR'S ISLAND, N. Y., Dec. —, —.

Special Orders, }
No. —. }

Par. I.—Major ———, ——— Artillery, is hereby detailed to inspect, etc., etc.

Par. II.—Leave of absence for 30 days is hereby granted First Lieutenant ———.

By command of Major General ———,
(Signature of Asst. Adj't General,)
Assistant Adjutant General.

In this case, the order above is sent to Major ——— without Par. II., and to Lieut. ——— without Par. I., through their post commanders, and Lieut. ——— through his battery commander also.

(3d.) FORT ———, WISCONSIN,
August —, —.

Orders, }
No. I. }

Par. I,—Until further orders Reveille will be sounded as follows:

1st Call, 5 a. m.

Reveille, 5:10 a. m.

Assembly, 5:15 a. m.

Par. II.—A Garrison Court Martial, etc.

* * * * *

By order of COLONEL HICKS:

(Signed) ———,
1st Lieut. 20th Cavalry,
Post Adjutant.

(4th.) Form of Report.

FORT ———, NEB.,
July —, —.

To the
Post Adjutant,
Fort ———, Neb.

SIR:

In compliance with A. R., Par. —, I have the honor to report that etc., etc., etc. * * * *

I am, Sir, very respectfully,

Your obedient servant,

———,
Captain, 6th Artillery.

A. R. are the initial letters of Army Regulations.

Leaves of Absence and Furloughs.

The permission granted officers of the Army to be absent from their duties is called a "leave of absence," while in the case of the soldier it is called a "furlough."

Under the law of Congress an officer is entitled to one month's leave in each fiscal year, on full pay; and in the event of his not wishing to go away every year, he is allowed to accumulate four months by staying that, or a greater length of time at his post of duty. No more than four months on full pay will however be allowed.

Officers on leave are required to report their address once each month to the Adjutant General of the Army, the Adjutant of their Regiments, and the Post Adjutant of their posts.

A Post Commander can give a leave of absence not to exceed seven days to an officer, and a furlough of twenty days to a soldier; a Department Commander can give one month to an officer, and two months to a soldier; a Division Commander can give two months to an officer, and three months to a soldier.

Leaves of absence, or furloughs, for a longer period of time than the above, must be granted by the War Department.

Discharges.

A soldier may be discharged from the service of the United States, after enlistment, for several reasons, viz.:

1st. By order of the Secretary of War, on application, for good and sufficient reasons.

2d. On Surgeon's Certificate of Disability, where the man becomes disabled through wounds or disease. If incurred in line of duty, a pension is awarded him.

3d. By sentence of a General Court-Martial (dishonorably) on account of some crime, of which he has been convicted.

4th. By expiration of term of service, five years from the date of his enlistment. He is then furnished with a Discharge and Final Statement in duplicate, as follows:

ARMY OF THE UNITED STATES.

TO ALL WHOM IT MAY CONCERN.

KNOW YE, That *Thomas Jones*, a *Private* of *Captain N. H. Ross' Company (G)* of the *4th Regiment of Infantry*, who was enlisted the *nineteenth* day of *May*, one thousand eight hundred and *seventy-nine*, to serve *five years*, is hereby discharged from the Army of the United States in consequence of *expiration of term of service*.

Said *Thomas Jones* was born in *Oberlin*, in the State of *Ohio*; is *27* years of age, *5 feet 10 inches* high, *dark* complexion, *brown* eyes, *red* hair, and by occupation when enlisted a *carpenter*.

Given under my hand at *Fort Black, Arizona*, this *sixth* day of *May*, in the year of our Lord one thousand eight hundred and *eighty-six*.

HENRY MOULTON, *Commanding*.

Unmarried.

CHARACTER.

No objection to his being re-enlisted is known to exist.

*An excellent soldier and a sober man.*WM. H. ROSS,
Captain 24th Inf.

A. G. O. No. 98.

OATH OF IDENTITY.

I,
of the town of
County of in the State of
On this day of in the year one
thousand eight hundred and personally appeared
before me the undersigned, a Justice of the Peace for the
county and above mentioned.
who being duly sworn according to law, declares that he is
the identical who was
a in Captain Company
of the Regiment of U. S.
that he enlisted on the day of
for the term of and was discharged
at on the day
of by reason of
Sworn and subscribed to before me the day and year above
written.

Indorsement.

I certify that before
whom the above affidavit purports to have been made, is a Jus-
tice of the Peace, duly authorized to administer oaths, and that
the above is his signature.
In witness whereof I have herunto set my hand and affixed
my official seal this day of
{ L. S. } at in the year
Clerk of the

SIGNATURE.—*Thomas Jones.*

FINAL STATEMENT of *Thomas Jones, a private, Captain Wm. H. Ross' Company, ["G,"]* of the *4th U. S. Regiment of Infantry*, born in *Oberlin*, in the State of *Ohio*, aged (at enlistment) *22 years, 5 feet 10 inches high, dark complexion, brown eyes, black hair*, and by occupation a *carpenter*, was enlisted by *Captain Smith*, at *New York City*, on the *seventh day of May*, eighteen hundred and *seventy-nine*, to serve for *five years*, who is now discharged by reason of *expiration of term of service*.

The said *Thomas Jones* was last paid by Paymaster *Samuel Muldoon*, to include the *30th day of April*, eighteen hundred and *eighty-four*, and has pay due from that time to *day of discharge, inclusive*.

DUE SOLDIER.

For . . years' continuous service, under Sec. 2, act	
August 4, 1854	\$. . per month.
For retained pay, act of May 15, 1872. (See note.)	
(<i>Seventy-two dollars</i>)	72.00 dollars.
For clothing not drawn in kind, <i>Fifty-seven dollars and twenty cents</i>	(57. ²⁰ / ₁₀₀ dollars.)
For deposits (the date and amount of each deposit to be stated. See note 7.)	
With Major Freeliver, Aug. 7, 1884	\$100.00
With Major Stanley, Sept. 7, 1884	50.00
With Major Lawson, Dec. 17, 1884	25.00
	<hr/>
	\$175.00

DUE UNITED STATES.

For clothing overdrawn,	¹⁰⁰ / ₁₀₀ dollars.
For tobacco,	¹⁰⁰ / ₁₀₀ dollars.
For	
Remarks:	

I CERTIFY that the above Final Statement, given in duplicate at *Fort Blank, Dak.*, this *seventh day of May*, 1885, is correct.

WM. H. ROSS,
Capt. 4th Infantry,
Commanding

NOTE.—In case the deposits or the retained pay are forfeited, the amounts should not be stated under the head of "Due Soldier," but the fact and authority for such forfeiture must be given in the Remarks.

A. G. O. No. 30.

FINAL STATEMENT

OF

*Thomas Jones,**a Private in Co. "G," 4th
Regiment of Infantry.*

NOTE 1.—Two (or duplicates) of these statements are to be given to each soldier who may be discharged, that he may at once receive from the paymaster the pay, &c., due him; and the captain, or other commissioned officer commanding the company, will certify to the duplicate statements; with these statements the soldier is entitled to his discharge, and should also present his discharge to the paymaster to have the payment indorsed on it. The discharge is to be given back to the soldier by the paymaster, the latter retaining as his voucher the duplicate final statements.

NOTE 2.—When a soldier is discharged, or dies while in hospital or on detached service, his descriptive list, if he has one, should be taken up by the officer furnishing final statements, indorsed by him with a full statement of the time for which he was allowed pay, *CURRENT ACCOUNT*, and all other charges against him or in his favor, so as to comprise a complete exhibit of his account, and retained by the officer for his future information. In case of death the final statements and inventories of officers will be forwarded to the Adjutant General, Washington, D. C. A true copy of the descriptive list will at once be sent to the company commander, notifying him of the soldier's discharge or death, with the indorsements made thereon as to date, place, cause, with charges, credits, &c., and the disposition of his effects; if dead, to enable him to enter all the data necessary to a full understanding of the soldier's account, and cause and circumstances of death or discharge, on the muster-roll upon which the same is reported. Where there are no effects, inventories will be made out in blank, and forwarded, properly signed, with the final statements.

NOTE 3.—When a soldier transfers his final statements the transfer must be made on them, and his signature witnessed by a commissioned officer, when practicable, or by some other reputable person known to the paymaster, and the witnessing officer should also indorse the fact of transfer upon the soldier's discharge, and also note on the final statements that such indorsement on the discharge has been made. This being done, the discharge will be returned to the soldier.

NOTE 4.—If entitled to additional pay under act of August 4, 1854, for former services, or under Secs. 1216 and 1285, Revised Statutes, of June 22, 1874, for certificate of merit, and if entitled to re-enlisted pay under act of May 15, 1872, it should be noted on the final statements.

NOTE 5.—If a soldier has ever re-enlisted under act of August 4, 1854, he is entitled to re-enlisted pay, even if years have elapsed before he again re-enlists.—G. O. 51, A. G. O. of 1872.

NOTE 6.—On the discharge of a soldier, the date and amount (in words and figures) of each deposit will be entered upon his final statements, and his deposit-book will be taken up by the paymaster who makes final payments, and filed with his

voucher. In case of death, books of deposit will be forwarded with the final statements to the Adjutant General, Washington, D. C.

NOTE 7.—Money amounts in all cases shall be written out in full, the writing to commence close to printed matter on left-hand side, and also expressed by figures in brackets.—G. O. No. 51, A. G. O. of 1869.

NOTE 8.—The retained pay due should be computed to date of discharge, and not to date of last payment only.

NOTE 9.—Stoppages for *loss or damage* alone to *arms* or other *public property* must be noted.

NOTE 10.—Stoppages by sentence of a Court Martial, with a reference to the G. O. in the case, must be entered; also forfeitures for desertion, with reference to the G. O. promulgating sentence or pardon; or if the soldier has been a deserter at any time during his enlistment, it should be noted.

NOTE 11.—Amounts due the laundress must be entered on the muster-roll on which the discharge, death, desertion, &c., is reported, as well as on the final statements, otherwise the amount cannot be collected from the United States.

NOTE 12.—To prevent payments on fraudulent discharge papers, paymasters are directed to refuse payment unless the identity of the soldier is properly established. As discharged soldiers usually travel in advance of the mail, company commanders, adjutants commanding regimental bands and non-commissioned staff, and medical officers in charge of hospitals, will send to the chief paymaster the notification of discharge required several mails previous to date of discharge. These commanders will send with this notification the signature of the discharged soldier as additional proof of identity, if he can write his name: if he cannot write his name, this fact will be reported in writing on the notification of discharge. If the soldier prefers payment elsewhere, the notification will be sent to the paymaster to whom the discharged soldier will present himself. If not sent by mail, the notification must be sent through another channel than the hands of the man discharged. No payments will be made on discharge papers by any paymaster except upon receipt of such notification, unless he may be otherwise satisfied of their genuineness and of the personal identity of the claimant.—G. O. No. 8, A. G. O. of 1872.

NOTE 13.—If honorably discharged by special order from

A. G. O. office before the expiration of his term of service, the soldier will be entitled to travel-pay, unless said order sets forth that he forfeits the same. In the latter case the company commander will note on the final statement its forfeiture. **NOTE 14.**—This blank will be used for deceased soldiers as well as for others.

(N. B.) *The directions contained in these Notes will be carefully complied with.*

These papers are then taken to the Paymaster, and upon them he pays what is due, returning the discharge to the soldier, and filing the other papers away as vouchers to accompany his monthly accounts current.

Deposits.

Any soldier, during his term of service, may deposit any or all of his pay, exceeding \$5 in amount, with any Paymaster, and receive the same back again at the date of his discharge, together with the addition of 4 per cent. per annum interest on the whole amount. In the event of death, this money would be paid to the heirs of the deceased ; but if the soldier desert, the amount of deposit at the time is forfeited to the Government.

Boards of Survey.

These are composed of three officers, the junior being the recorder of the proceedings, which must be signed by all the members to render them complete. They are instituted for the purpose of establishing facts or opinions by which questions of administrative responsibility may be determined, and the adjustment of accounts facilitated ; as, for example, to assess the amount and kind of damage or deficiency which public property may have sustained from any extraordinary cause, not ordinary wastage, either in transit or in store, or in actual use, whether from accident, unusual wastage, or otherwise, and set forth the circumstances and fix the responsibility of such damage ; to make inventories of property ordered to be abandoned when the articles have not been enumerated in the orders ; to assess the prices at which damaged clothing may be issued to troops, and the proportion in which supplies shall be issued in consequence of damage that renders them, at the usual rate, unequal to the allowance which the regulations contemplate ; to verify the discrepancy between the invoices and the actual quantity or description of property transferred from one officer to another, and ascertain, as far as possible, where and how the discrepancy has occurred—whether in the hands of the carrier or the officer

making the transfer, and to make inventories and report on the condition of public property in the possession of officers at the time of their death ; also to investigate and report upon the circumstances attending the desertion of any man from the army, as well as to determine what, if any, articles of government property have been lost or taken by the deserter. In no case, however, will the report of the Board supersede the dispositions which the law requires with reference to deficiencies and damage.

A Board of Survey has no legal power to swear either itself, its members, or witnesses before it ; and it cannot be convened by any other than the commanding officer present. If there should be only two officers present beside the commanding officer and the officer responsible, they will form the Board ; if only one of them, he will constitute it. Should there be none present but the commanding officer and the responsible officer, then the former will constitute himself a Board. When the responsible officer is the only officer at the post, he will, instead of constituting himself a Board, furnish his own certificate of the facts of the case, accompanied by affidavits of non-commissioned officers of the post cognizant thereof, to the department commander.

Neither the commander nor any member of the Board should be parties interested in the matter to be investigated.

For special details see Army Regulations, pp. 136-7.

Councils of Administration.

There are three kinds—the *Post*, the *Regimental*, and the *Company*. They are each composed of three officers—the *Post Council* of the three line officers next in rank to the commanding officer ; and its duties are to audit the accounts of the Post Treasurer, make an equitable distribution of accumulated funds, make appropriations for the pay of the bakers and assistant librarian, for the purchase of utensils and materials wherewith to bake bread for the troops, for the purchase of books and papers for the post library, garden seeds and tools for the post garden, etc.,

etc., and such other matters as may pertain to a proper expenditure of the Post Fund.

The *Regimental Council* is composed of the three regimental officers stationed at the headquarters of the regiment next in rank to the commanding officer, and the duty of this Council is to audit the accounts of the Regimental Treasurer, (usually the Adjutant), make appropriations for extra pay of musicians, and for the purchase and repair of instruments and ornamental dress for the Regimental Band.

The *Company Council* is composed of the company officers, who audit the accounts of the company fund. This Council is convened by the Post commander present.

The Post and Regimental Councils are convened on the last day of February, April, June, August, October and December, and at such other times as the Post Commander may deem proper. The Company Council is convened only on the last days of March, June, September, and December.

Inspections.

Captains will make an inspection of their companies and barracks every Sunday morning. In garrison no soldier will be excused except the guard, the sick and the necessary attendants in hospital. In camp it is customary to excuse any member of a working party who may have been employed on fatigue up to retreat of the previous day.

Commanders of posts and regiments will make an inspection of their commands on the last day of every month, and the troops will be mustered at the time of the inspection on the last days of February, April, June, August, October and December.

Divisions and brigades will be inspected in time of war by an inspecting officer between the 15th and 20th of each month.

In time of peace, except when otherwise specially provided for by the Secretary of War or General of the Army, every military post, cemetery, station and command in the

Army will be inspected at least once in every year by division or department inspectors, under the direction of their respective commanders. This inspection embraces a thorough examination of all books, papers and records, the application of tactics in the drill of the troops, and a minute examination of clothing, arms and equipments, and such property as may require the action of an inspector. Whenever practicable it is preceded by a review of the troops.

In addition to the above, the commanding officer of the post or regiment, the captains and the medical officers, are required to make frequent visits to the men's quarters, the guard-house, hospital, etc.

The ceremonies for inspecting troops under arms will be found in the Tactics.

Certificates of Merit.

Certificates of merit are authorized by Section 1216, Revised Statutes, to be awarded soldiers, and extra pay of two dollars per month is granted to holders of these as long as they remain continuously in service.

These are only awarded for acts of extraordinary gallantry in presence of the enemy, which must be specific, and certified to by an eye-witness, preferably the immediate commanding officer of the soldier.

Uniform, Etc.

As the uniform of the United States Army is changeable at the will of the President of the United States, it is not deemed necessary to give a description of the same to any extent—not more than what may be necessary to distinguish the rank of individuals.

Full Dress Coats for All Officers.

All officers shall wear a double-breasted frock coat of dark blue cloth, the skirt to extend from one-half to three-fourths the distance from the hip-joint to the bend of the knee.

To Designate a General.—Two rows of buttons on the

breast, twelve in each row, placed by fours, the distance between each row five and one-half inches at top, and three and one-half inches at bottom. *Buttons* of gilt with spread eagle, and stars and plain border. *Trousers* of dark blue cloth without welt or stripe. *Chapeau* worn with the front peak turned slightly to the left, with three black ostrich feathers and gilt ornaments on right side. *Epaulettes* of gold with solid crescent; device, two silver embroidered stars, with five rays each, one and one-half inches in diameter, and the "Arms of the United States" embroidered in gold placed between them. *Shoulder Straps* (when worn) will be of dark blue cloth, $1\frac{3}{8}$ inches wide by four inches long, bordered with an embroidery of gold $\frac{1}{4}$ of an inch wide; two silver embroidered stars of five rays each, and gold embroidered "Arms of the U. S." between them. *Gloves*.—Buff or white gauntlets or gloves. *Sash*, buff silk net or buff silk and gold thread, with silk bullion fringe ends, to go twice around the waist and to tie behind the left hip, pendent part not to extend more than 18 inches below the tie; and when above the grade of Brigadier, may be worn across the body from the left shoulder to the right side. *Sword Belt* of red Russia leather, with three stripes of gold embroidery, and gilt rectangular plate two inches wide. *Sword Knot* of gold cord with acorn end. *Spurs* yellow metal or gilt. *Sword*, straight, gilt hilt, silver grip, brass or steel scabbard.

To Designate a Lieutenant General.—*Coat* the same as for a General, except that there will be ten buttons in each row on the breast, the upper and lower groups by threes, and the middle group by fours. *Buttons*, *Trousers*, *Chapeau*, with two feathers, same as for a General. *Epaulettes* of gold, with solid crescent; device: three silver embroidered stars of five rays each, respectively $1\frac{1}{2}$, $1\frac{1}{4}$ and $1\frac{1}{8}$ inches in diameter, the largest placed in the centre of the crescent, the others placed longitudinally on the strap, and equidistant, ranging in order of size from the crescent. *Shoulder Straps* (when worn) same as for a General, except that there will be three silver-embroidered stars of five rays, one star on the centre of the strap and one on

each side, equidistant between the centre and outer edge of the strap, the centre star to be the largest. *Gloves, Sash, Sword*, with its *belt, plate and knot*, and *Spurs*, same as for a *General*.

To Designate a Major General.—*Coat* same as for a *General*, except that there will be nine buttons in each row on the breast, placed by threes. *Buttons, Trousers, Chapeau*, with two ostrich feathers, same as for a *General*. *Epaulettes* same as for a *Lieutenant General*, omitting smallest star, and the smallest of the two remaining stars placed in the centre of the strap. *Shoulder Straps* (when worn) the same as for a *Lieutenant General*, except that there will be *two* stars instead of three, the centre of each star to be one inch from the outer edge of the gold embroidery on the ends of the strap; both stars of the same size. *Gloves, Sash, Sword*, with its *belt, plate, and knot*, and *Spurs* same as for a *General*.

To Designate a Brigadier General.—*Coat* same as for a *General*, except that there will be eight buttons in each row on the breast, placed in pairs. *Buttons, Trousers and Chapeau* same as for a *Major General*. *Epaulette* same as for a *Lient. General*, omitting all but the largest star. *Shoulder Strap* (when worn) the same as for a *Major General*, except that there will be *one* star instead of two, the centre of star to be equidistant from the outer edge of the embroidery on the ends of the strap. *Glove, Sash* (except that it cannot be worn across the shoulder), *Sword*, with its *belt, plate, and knot*, and *Spurs*, same as for a *General*.

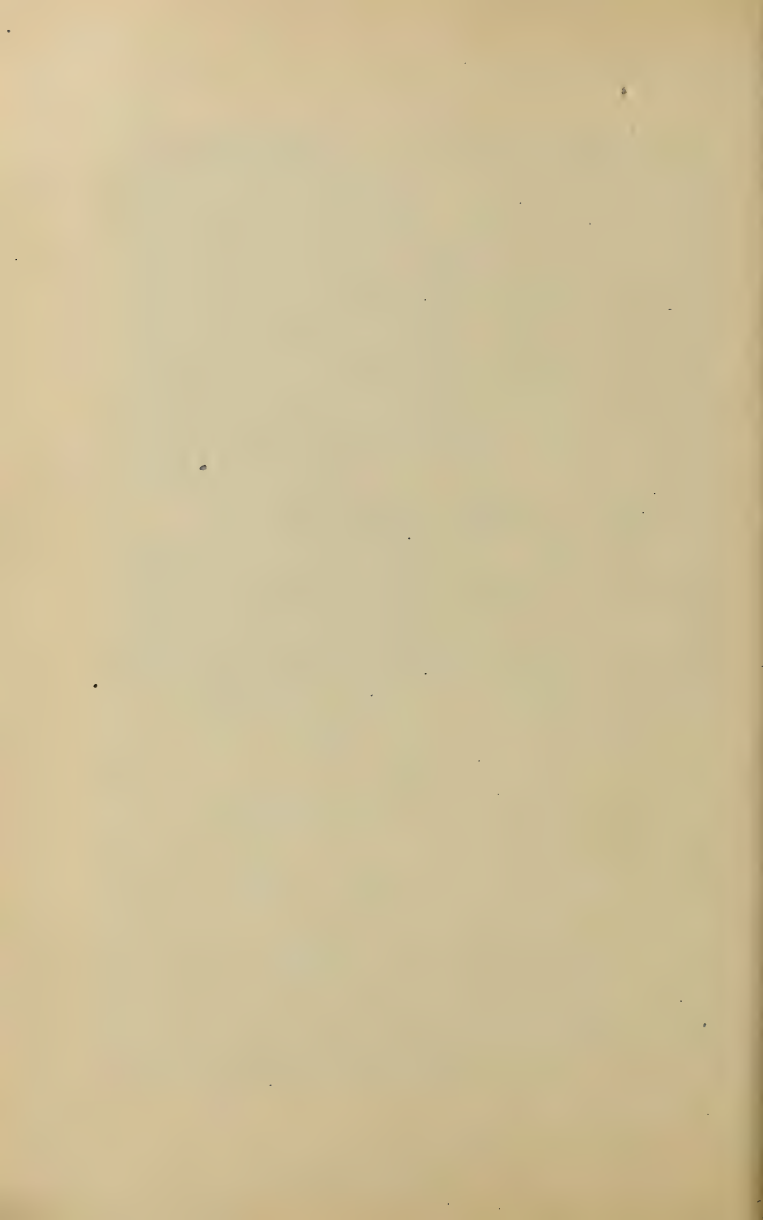
The line of the Army of the United States is clothed in two shades of blue, the dark being for coats and blouses, and the sky-blue for trousers. Black helmets, with spike for enlisted men and company officers, and with horse-hair plumes the color of the facing of their respective arms of service for the field officers of infantry, and men and officers of mounted corps, constitute the full-dress hat. Forage caps are worn with the undress uniform, and campaign hats of dark or gray felt are used for field service. White helmets are permitted to be used by all officers and men in warm climates when not on duty.

The various arms of the service are designated by the colors of the facings of their coats, by their chevrons and their stripes. The chevrons and service stripes for all arms of the service are of gold lace for the dress coat. On all other articles of the dress, however, they are as follows:

Infantry, *white*; Cavalry, *yellow*; Artillery, *scarlet*; Engineers, *scarlet and white*; Ordnance, *crimson*; Medical Department, *green*; Subsistence Department, *gray*; Quartermaster's Department, *buff*; Signal Corps, *orange*.

Devices to Indicate Arms of Service.—Infantry, *crossed rifles*; Cavalry, *crossed sabres*; Artillery, *crossed cannon*; Engineers, *castle*; Ordnance, *shell and flame*; Medical Department, "*U. S.*" *enclosed in wreath*; Commissary Department, *white crescent*; Quartermaster's Department, *crossed pen and key*; Signal Corps, *crossed flags*, Adj. General's Department, *shield in gold wreath*.

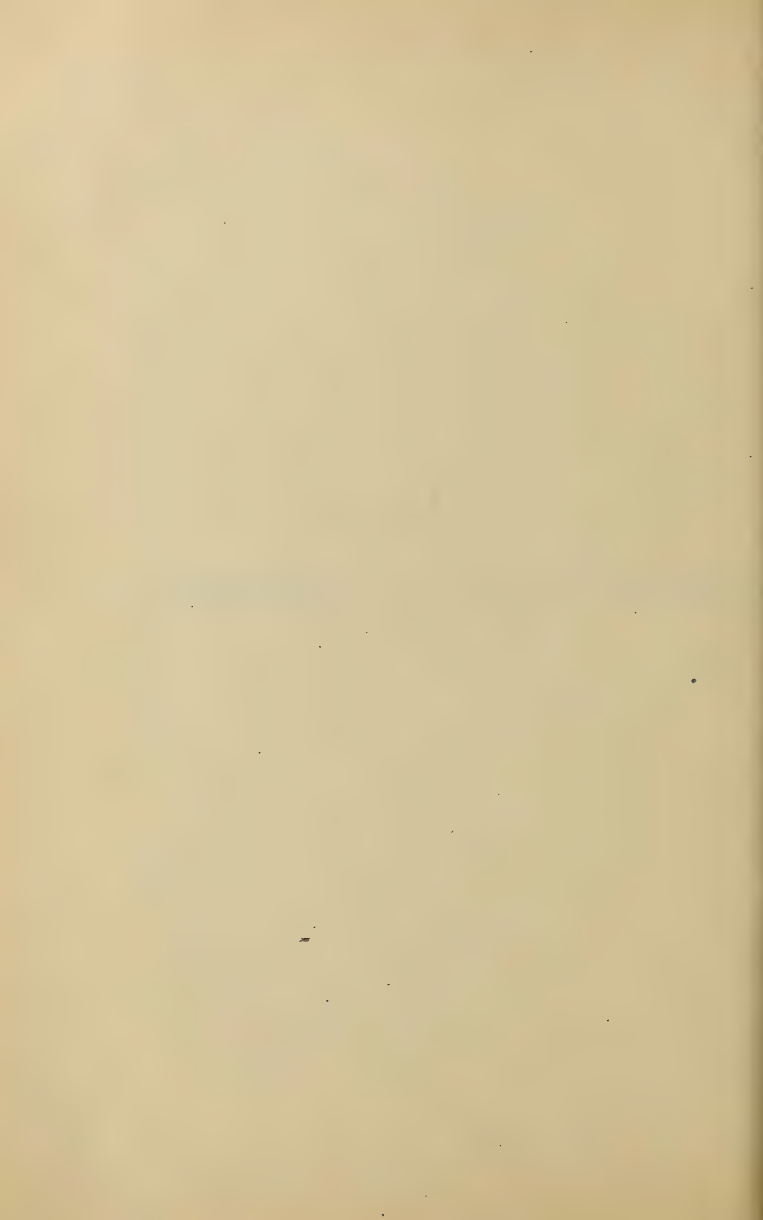
The rank is indicated by shoulder straps, as follows: 2d Lieut., plain field; 1st Lieut., one bar on each end of field; Captain, two bars on each end of field; Major, gold leaf; Lieutenant Colonel, silver leaf; Colonel, silver eagle. Field is the color of the facings. Corporals, two stripes, and Sergeants three stripes on the arm. 1st Sergeants have in addition a lozenge. The stripes are the color of the facings.



CHAPTER XI.

RECONNOISSANCES, IN TIME OF PEACE AND WAR.

ITINERARIES, ETC.



RECONNOISSANCES.

A *Reconnaissance* is a survey made for the purpose of obtaining all useful information regarding an enemy, and the country he is in. Whenever troops are on the march or in the enemy's country, officers are selected by the commanding officer to make reconnoissances. The qualifications of a good reconnoissance officer are energy, ability, courage, and coolness. He should also be a man sparing of words, and tell only what he sees and knows.

Reconnoissances are made both in peace and war. When made in peace, they are more general than in war, and always made in view of a future war. When a reconnoissance has for its object the gaining of information regarding a particular portion of a country, it is designated a *Topographical reconnoissance*. This information is then put down in an accurate memorandum, and an accurate sketch is made of the country gone over. [When the time and means allow, an accurate map of the country is made, and the representations of all trees, houses, swamps, etc., are made by conventional signs. When the time and means do not allow, the officer making a reconnoissance should provide himself with a pencil, note book, watch, pocket-level, colored crayons, sketching paper, box compass, and rations for the time he is to be gone.]

The officer is mounted and ordered to reconnoitre a certain portion of the country, and have ready by a certain time the map and descriptive memoranda of the reconnoissance. He first puts on his map a point which indicates the position from which he first commenced his reconnoissance; he then rides to a certain place, keeps note of the time it takes him to get there, and knowing the rapidity with which his horse goes, he calculates the distance passed over; he knows by his compass the loca-

tion he is from his starting point, and making a scale he draws on his paper the line representing the distance passed over. He then proceeds to other points to the left and right of the road passed over, and by means of the compass, he marks down accurately on the map all these other roads passed over. If he crosses a stream, he notes down its depth and width, also the dimensions of any bridge he may pass over; he notes by means of his level the heights of different parts of the country and principal objects therein; he notes all roads and houses, swamps and woods, etc., etc., and puts down on his map, by means of conventional signs, representations of them. After he has thoroughly gone over the allotted ground, if he has time, he makes another map on a larger scale, and fills it properly by means of conventional signs; he then supplements his map by a descriptive memoir made up from his notes and memory. The points to be noted are: 1st. The nature of the country, whether it is hilly or level; the contour of rises in the ground, the nature of the soil, its climate, amount of rain-fall, its productiveness and products, its fences, whether rail, stone, or hedges, and their size and direction. 2d. The height and nature of hills, and any passes they may have also. 3d. Character and number and occupation of the inhabitants and their disposition, whether peaceable or not. 4th. Marshes, their extent and situation, and how and where to cross them. 5th. Streams, rivers, canals, their breadth, depth, and rapidity, their liability to overflow, the nature of their beds, and whether they are navigable or not; also the position, dimension, and character of all bridges, fences, landing-places, nature of the banks, fords, means for rafts, the numbers and kinds of boats. 6th. Roads, their numbers, directions, dimensions, character of road-beds, whether suitable for infantry, cavalry, artillery; the gradients and drainage, state of repair, the kind of roads, also all obstacles crossing the roads, or means at hand to obstruct the roads; positions of hills, ravines, and woods, etc., how they can be utilized, either for or against the enemy. 7th. The position of woods, kinds of trees and

amount of brushwood around them, and communication through and around them. 8th. All watering-places, springs, ponds, fountains, wells, etc. 9th. The nature of the cultivated portion of the country, kinds of grain, size of fields, and condition of crops. 10th. Positions that may be utilized, and the best situations for defensive works, camps, etc., etc. 11th. Number of lines of railroads, gauge, amount of rolling stock, etc., condition of road-beds, length of, and principal towns on them. 12th. The size of towns and villages, and number of inhabitants and supplies they possess, the principal buildings of the towns, with a view of their being used as hospitals, barracks, shops, store-houses, etc.; the general health of the people, and the country, and amount of accommodations afforded to men and animals.

(Armed reconnoissance, or a reconnoissance in an enemy's country.) In addition to the above, there should also be learned all that can be gleaned of the enemy, his numbers and organization, his position and condition as regards supplies, health, the number, position and strength of his works, permanent or temporary, his headquarters, etc. Information of all kinds should be obtained by personal inspection, if possible; but whenever resort is had to inquiry of any of the inhabitants, it should be carried on in such a way as to excite no suspicion of its object.

It will facilitate the reconnoissance if a map can be obtained, of the country, before reconnoitering, and adding to the information gained. To determine distances, let the horse go at different paces over a certain length of ground, and note the time at each pace. The horse should never go at any other than one of the measured paces, if it can be helped. In reconnoitring, all information should be put down as clearly and intelligibly as possible. All reconnoissances made in the presence of the enemy, or near him, are armed reconnoissances, and are principally for the purpose of procuring information regarding the condition and whereabouts of the enemy. They may be either secret or open, and the officer making them is accompanied by an armed detachment. These detachments

are preceeded by scouts, and move very cautiously, so as not to be discovered by the enemy. In the case of *secret reconnoissance*, if discovered, the detachment must retreat to its own troops. The qualities that make a good reconnoissance officer are here called into play better than at any other time. The officer must be cool and judicious; he must have a quick and correct eye, know how to estimate distance, numbers and quality at a glance, and try to verify his estimation. Unless verified, he should never report as a fact, for a poor or incorrect report is worse than none.

Open reconnoissances are made by large detachments of troops that seek to push through the enemy's outposts to gain exact information. They often precede battles, and by their means information is often gained of the exact strength and position of the enemy. They are also termed *reconnoissances in force*.

Itineraries.

An itinerary is a reconnoissance made of the route passed over by troops on the march. They should be made whenever a column of troops moves from one place to another, and the information kept safely for future use. The usual form of an itinerary is to take a note book and rule its pages into squares according to the scale selected. One side of the book is used for the sketch, and the other for the map. [See Fig. 23.]

The entire subject of reconnoissances and itineraries is so important and practical a one that commanders should constantly exercise subordinate officers at it. Experience alone can make the truly valuable and trusty reconnoissance officer.

When time is of importance, rough sketching alone can be employed for military purposes. It can be done rapidly and afterwards worked up into a highly finished sketch. It will facilitate a reconnoissance of this nature, if a plan is made from an existing one before going out, and correcting errors in the field.

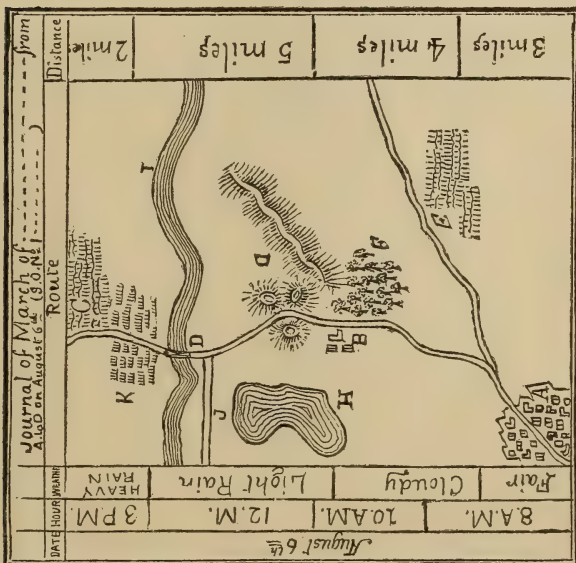


Fig. 1.

REMARKS

The road from A to D is good hard earth suitable in pleasant weather for all troops. at D is a strong wooden bridge over which Artillery and tramping may pass beyond D the road is soft and bad in places. etc, etc, etc.

Conventional Signs

Trees --- Fences ---
 Swamp --- Roads ---
 Hills --- Lake ---
 River --- Houses ---
 Fields ---

FIG. 23.

Every officer detailed for reconnoissance duty, should have in his possession, a pocket-book already prepared, with proper lines ruled for time and distances.

Never trust to memory, but always put down important information, and name the authority or source.

CHAPTER XII.

**MARCHES AND CAMPS IN TIME OF PEACE AND
WAR.**

MARCHES AND CAMPS.

The details of marching and camping belong to Logistics, and the art of directing them properly belongs to Strategy.

Marches are *Route*, *Strategical* and *Tactical* in their nature.

Route marches are those made without, and at some distance from the enemy's lines.

Strategical marches are those made with a view of meeting the enemy.

Tactical marches are those made in the presence of the enemy. *Route* marches are either *ordinary*, *forced*, or *marches by rail*.

When a march is made over ordinary roads, and does not exceed 25 miles a day for a body of troops composed of all arms of the service, it is an *ordinary* march. If the march is in bad weather, or over very poor and rough roads, and is of the same length, or if made over ordinary roads, and exceeds 25 miles a day, it is a *forced* march. When troops are transported to their destination by railroads it is a *march by rail*.

All route marches have the comfort and convenience of the troops as their first condition, but strategical marches have security first, and the comfort and convenience of the troops as the second condition.

Tactical marches have much greater precautions taken to avoid attack than strategical marches, and differ only therein from the latter.

In arranging for a march, the officer commanding first fixes the points or places along the route that he intends different corps and divisions to halt. He learns all he can of the country, its capacity for supplying the army, etc. He fixes the halting and camping places, and assigns the different routes to the different divisions of the army. In

making concentration of large bodies of troops from different parts of the country at a certain time and place, he arranges the time and routes so as not to interfere with each other. An officer's strategic ability is taxed to the greatest, and has as large a field to work in as in seizing the opportune moment in battle.

When the routes and halting and camping places are fixed, the army starts, and there are then certain general fixed rules applicable to all marches, which are here given.

The number of columns will depend on the number and size of the roads. The hardest and best roads should be given up to the artillery and trains. Communication is kept up between the different columns at all times. Artillery and cavalry should march in front or rear of infantry, so as not to impede its advance. Trains follow the columns in the following order :

- 1st. Reserve ammunition column.
- 2d. Ambulances and field hospitals.
- 3d. Provisions for the day's supply.
- 4th. Baggage in order of regiments in column.
- 5th. Commissariat provisions columns.

Infantry should march about 3 miles an hour with the present length of step, and should halt 10 minutes each hour. It should move about ten hours, and including the halts, it would make 25 miles a day. The pace at the head of the column must be a steady one, and the column must be kept closed up throughout its length ; soldiers should be allowed to carry their equipments and guns at ease except when starting out from a halt or approaching one. No soldier should be allowed to fall out of ranks without permission of his captain. The permission, if possible, should be written. All shallow rivulets or streams should be passed as though it were a meadow, no soldier being allowed to pick his way out. All intervals and distances between sub-divisions should be maintained. The roll should be called after each long halt, just before the ranks are broken for the night halt.

Cavalry should march at a walk and make at least 25 miles a day. There should be several halts at intervals of

2 hours each, and the men should dismount and let the horses drink and graze.

Artillery should be governed in its march by the movements of the column to which it has been assigned. Every moment of halt should be used by *men* and *horses* in *rest* or *refreshment*. Forced marches are made in the same general way, except as to pace and halts. Fewer halts are made and the pace is increased. With Cavalry, halts are made every hour and men dismount and for 15 minutes lead their horses at a walk.

Marches by Rail.

The approaches to the stations of embarkation are kept clear, and each car is marked with the company and regiment it is to carry, and each sub-division marches on the platform at attention. Knapsacks are taken off, cartridge-boxes, canteens and bayonets, are slung around to the front of the soldiers, who then file into the car, and take their seats in order, each man retaining possession of his arms and accoutrements. No man should be allowed to fall out of the station, and silence should be maintained till the car has started. A commissioned officer should be assigned to each car. Horses should remain harnessed or saddled, supplies should be loaded and packed in wagons, and wagons be hauled on to cars in that condition. Fatigue parties are detailed with the wagons. In Artillery, horses are unhitched and put in box cars, teams being kept together, and sections and platoons in the same car as far as possible.

In long journeys horses are unharnessed, and harness and baggage, and horse equipments carried in a special car, where it is marked with section and team and horse. Guns and carriages are placed on open cars, trails and stocks resting on the floor of cars, strips are nailed on either side, and front and rear of each wheel, to keep carriage from slipping. No poles, or guns, or parts of carriages, should project beyond the car. Halts are made for horses every 8 or 10 hours; they are then watered and fed. Halts are made for men every three hours. Cars

should move at a low average speed, about 15 or 20 miles an hour, and in calculating the time table, provision should be made for making the halts at places where water and food for the men and animals are found in plenty.

At halts no man is allowed off the train without permission. There should be a telegraph operator with portable instruments with each train, so that in case of mishap he may communicate with other trains or stations. If there is danger on the road, a guard train should precede the main column, and should have tools for repairing track and telegraph, and removing rocks, etc. Baggage of each column or division is loaded on train with that division. Baggage trains are loaded on open cars. Skids and platforms should be on trains for disembarking artillery, horses and trains. Men disembark in same order of embarkation, and march away from the station a sufficient distance for all the troops to form without inconvenience.

Marches in the Enemy's Country.

Such are known as strategical marches, when not in the actual presence of the enemy. In making a forward movement, or in approaching the enemy's country, the general issues his orders to the corps or division commanders, specifying the routes, direction of each corps and division; the hour of starting, the halts, general instructions for field hospitals, reserve ammunition, engineers' supplies, and provision column, position of general and headquarters, advance and rear guards, communications, postal arrangements, and telegraph, etc., etc.

The different arms of service march so as to support each other. If no attack is expected the Artillery should be placed in the rear, otherwise at head of column.

The Engineers precede the main column in a rough or wooded country. Each corps and division commander arranges the detail of the march of his command so as to conform with the general instructions of the general commanding. The order in which a large body of troops marches is as follows:

1st. The advance guard.

- 2d. A small detachment of Cavalry.
- 3d. A battery of Artillery.
- 4th. Main column of Infantry.
- 5th. Remaining Artillery.
- 6th. Remaining Cavalry.
- 7th. Wagon train.
- 8th. Rear guard.

The advance guard is a detachment which precedes the main column in a march, to avoid surprise by the enemy. Its strength depends upon the total strength of the column and the vicinity of the enemy, and nature of the country. It marches ahead of the main column, at a sufficient distance to give the latter time to deploy and take up position in case of attack. Its strength is about one-sixth of the entire force. For a division it is composed as follows :

- 1st. Detachment of Sappers and Miners.
- 2d. One Squadron of Cavalry.
- 3d. Battery of 4 pieces of Artillery without caissons.
- 4th. Battalion of Infantry.

For a Corps it is as follows :

- 1st. One company Engineers.
- 2d. Three squadrons of Cavalry.
- 3d. A battery of 6 pieces of Artillery.
- 4th. Brigade of Infantry.

The advance guard is divided into the *advance party*, *support*, and *reserve*.

The advance party is divided into three or more detachments. One of the detachments is off to the right of the road, deployed as skirmishers. They are termed flankers. Another to the left also deployed, while the third is deployed across the road. The composition of the guard will depend to a great extent on the nature of the country.

If it is woody, infantry should comprise the principal part. In open country, cavalry. If rough and with bad roads, the detachment of engineers should be a large one.

The supports also have flankers on either side at a distance of about from 300 to 400 yards.

The advance party is from 200 to 300 yards in advance of the supports. The supports about 300 to 400 yards in

front of the reserve. The reserve numbers one-half the strength of the advance guard, the advance party and supports about one-quarter each. If the advance guard be all mounted the distances are double those given.

The flankers generally have supporting flankers about 100 to 200 yards closer in than the outer.

The same general order is followed out in advance guard of a regiment or company marching by itself. The regiment being composed of one arm of service only, cannot unite the three arms in the advance guard.

A Regiment of Infantry of 1000 to 1200 men, should have an advance guard of two companies, or 200 men. The advance guard is divided as before into the advance party, supports and reserve, the reserve consisting of one company, 100 men. The advance party would send out squads of skirmishers to the right and left, and front. The supports would follow about 300 yards in rear of the advance, and throw out flankers on both sides to a distance of 200 to 300 yards.

The skirmishers of the advance spread out on a front of about 150 to 200 yards both sides of the road. The support throws out flankers only to keep up communication with the advance. The reserve is 600 yards in advance of the main column.

A Regiment of Cavalry has for advance guard, the advance party consisting of one non-commissioned officer and six men, a support of one officer and eighteen non-commissioned officers and men, and a reserve of one officer and thirty-six men. The reserve supplies flankers for the advance guard, and the supports only sufficient to keep up communication with advance.

In the march of a regiment or larger body of troops, the distance between the main column and advanced guard is so great that an enemy concealed, and beyond the line of flankers, has time to attack the main column before it could face the proper direction and deploy. To avoid surprise, flankers are thrown out from the main column to 300 or 400 yards either side of the road.

Rear Guard.—In any forward march in an enemy's

country, the selection of officers and men composing the advance guard is made from among the best troops of the army. In a retrograde movement, or retreat, the rear guard is composed of the best. The rear, in a forward movement, is established to collect and send forward all stragglers, both men and animals, and to prevent surprise from an attack in rear. Its strength is about one-twentieth of the entire force, and is mostly infantry. A small detachment of cavalry, to communicate with the main column, is added to it.

The rear guard is divided into the main guard and skirmishers. The main guard is about 600 yards in rear of the column, and skirmishers are about 200 yards in rear of it. The skirmishers deploy to a distance of 300 yards either side of the road.

In a *retreat*, the rear guard is composed of about one-sixth of the entire force of infantry, and all the cavalry and artillery that can be advantageously used. The command of the rear guard on a retreat is a most important one, and the commander of it must be a man respected and feared by the enemy, and possessing the confidence of all of his own men and army. The rear guard in an open country marches by several roads, so as to allow rapid deployment.

It is divided into three parts, the main guard, the rear detachment, and the intermediate detachment. When the rear detachment discovers the enemy, it sends word by the intermediate to the main guard, which immediately deploys, and the rear and intermediate detachments fall back to it. The best light artillery march with the rear detachment, and on the attack of an enemy open fire, and retreat at the same time. The rear detachment is spread out in skirmish line, and the main guard supplies flanking squads.

Wagon or Supply Trains.—The order of march of the wagon train is as given on page 416. The reserve ammunition wagons carry all the ammunition required by the army for the day's march, or any encounter with the enemy. That for small arms is carried in army wagons, and for cannon in extra limbers, caissons and army wagons.

All ammunition is packed in boxes by the Ordnance Department, and the kind and calibre of ammunition is marked outside the box. The army wagon is of the following dimensions: Straight body 3' 6" wide, 1' 9" deep, and 9' 6" long at bottom, 10' long at top, six bows of good ash or oak; 4 wheels—forward wheels 3' 8" in diameter, and hind wheels 4' 8" diameter, 16 spokes each. Tongue 10' 6" long. Weight, 1325 pounds; is drawn by 4 mules or horses.

The number of ambulances in a train depends on the number of men in the column or division to which they belong. There are three ambulances allowed to every infantry regiment of 500 men or more, and two when the number is less than 500 and greater than 200; one only when less than 200. Two to each regiment of cavalry of 500 men or more, and one only when regiment is less than 500. One permanently attached to each battery of artillery.

To each corps headquarters, two ambulances. Two army wagons are allowed to each division train of ambulances. The baggage of each company, regiment, brigade, and division, must be kept by itself.

When an army is about to march, the wagons packed, with the proper guards and drivers, are taken charge of by the brigade or division quartermaster.

The baggage consists of the clothing, cooking utensils, camp equipage, etc. The following is the U. S. Army allowance in the field:

Major General	1000 pounds.
Brigadier General	700 "
Field Officers	500 "
Captains	200 "
Subalterns	150 "

These amounts are reduced *pro rata*, whenever the General commanding desires to do so, and increased, if the Quartermaster has transportation for them.

Camp and Field Equipage Allowance.

General Officer—three wall tents, one axe, one hatchet.

Field Officers and Staff—three wall tents, one axe, one hatchet.

Officers above rank of Captain—two wall tents, one axe, one hatchet.

Other Staff Officers and Captains—one wall tent, one axe, one hatchet.

To every two Lieutenants—one wall tent, one axe, one hatchet.

To every six foot or four mounted men—one common tent.

To every fifteen foot or thirteen mounted men—two axes, two hatchets, two spades, two pick-axes, two camp-kettles, five mess-pans.

To every twenty foot or seventeen mounted men—one Sibley or conical wall tent.

Hospital tents and flies require 18 large and 24 small pins.

Wall tents and flies require 12 large and 18 small pins.

Common tents require 17 small pins.

Sibley or conical wall tents require 24 small pins.

Commissariat or supply is carried in army wagons. The wagons for the day supply follow immediately in rear of the ambulance division; the general commissariat comes last of all in the train. Wagons are always filled up from the country if possible. Always kept full, and time and place of delivering of supplies carefully arranged beforehand.

A man eats two to three pounds of food daily.

Horse rations are: Horse, 14 pounds hay, 12 pounds grain; mule, 14 pounds hay, 9 pounds grain.

A man drinks three to five pounds water daily. A horse six to eight gallons daily.

Live stock is picked up in the country, if possible, and driven only a day or two with the column.

A sheep will make 35 to 60 rations.

A pig will make 80 to 100 rations.

An ox will make 300 to 600 rations.

Twenty-eight pounds of green forage is equal to ten pounds of hay.

Convoys.

Wagons in Convoy.—A convoy is a train that conveys the supplies from the base or bases of operation to the army, and is always accompanied by an armed force. Wagons in convoy travel about two miles an hour, and 100 wagons will take up one mile of road. If the convoy amounts to several hundred wagons, they are arranged in divisions not exceeding 500 each. If the number reaches to the thousands, several divisions are formed into a grand division. The time of departure and arrival at each point is calculated and made known. The divisions are marked, and each day they change the order of marching. Whenever a wagon breaks down, it is hauled to one side of the road and repaired, and then takes its place in rear of its own division.

The convoy must be kept together at all times, and no stoppage allowed anywhere throughout the train. The strength of the guard depends on the importance of the train, the character of the country, and the position of the enemy. A halt is made every hour for a few minutes' rest. The escort is divided into front, centre and rear guards, besides divisions on the flanks, which are from 200 to 400 yards from each other.

Besides wagons, in mountainous countries, pack-mules and horses are used to transport supplies; but, owing to the growth of railroads, the importance of the wagon train has greatly diminished in all civilized countries.

Tactical Marches.

When near the enemy, or in his presence, marches are conducted so as to be prepared to receive the enemy should he attack. The wagon train is generally posted in the rear, and strongly guarded, and the advance guard and flanking detachments heavily reinforced. The troops are then deployed in light marching order, if the nature of the country admits of it. The country may be heavily wooded, in which case the main column halts, and successive detachments of infantry follow, reinforcing each other. The engineers cut a road through

for the artillery, cavalry and trains. Should the woods be occupied by the enemy, skirmishers, backed up by heavy artillery fire, will drive in the enemy to the denser parts of the wood. The skirmishers are then reinforced, and advance until the enemy is driven far enough away to relieve the line of march.

If the march is in a mountainous country, and the column is about to enter a defile, skirmishers must first advance and seize and hold all the heights on either side of the defile. The advance guard having seized the heights, then sends out a single skirmisher, followed by others in succession, each keeping the preceding one in view, and on emerging on the further side, they reform and hold together until a sufficient portion of the column has advanced. If the enemy hold the defile, he must be driven therefrom, either by turning his flanks or getting a more elevated position, and in his rear. Artillery and trains do not pass a defile until it is perfectly safe.

The passage of bridges, swamps, rivers, etc., etc., are all conducted on the same general principles. The main body does not attempt to cross until the advance guard has passed, and with reinforcements to hold the further side. The rear of the column is as strongly guarded as the front. In the same general manner, and after once passing a defile or bridge, or crossing of any waters, a strong guard is left at both entrances to insure its safety in case of *retreat*.

An army marching towards one end or side of the enemy's position, is making a *flank march*. If directly towards it, it is called a *march to the front*. If drawing from it, it is a *retreat*. Any march made by which an army gains such a position as compels the enemy to change his position is called a *manœuvre march*. When several columns start from different points and meet at one point, they are called *marches of concentration*.

General Directions for Marches of Small Bodies of Troops.

Troops, either regular or militia, often make short marches for practice, or are called on to assist the civil

authorities, and are compelled to make short marches and endure for a few days all the hardships of a march in active service.

The best time to start will, of course, depend on the season of the year and the nature of the march. If some distance is to be travelled without water, the start should be made in the afternoon, and continued until night, and then again early in the morning, halting before the sun rises; otherwise, it is best to start so that a halt can be made for the night in plenty of time before dark to allow men to cook their suppers, pitch tents, clean and wash themselves and their clothing, etc. In starting early in the morning, breakfast must be eaten first, and everything carefully packed in the wagons or blanket-bags, canteens and haversacks filled. No man is allowed to fall out of ranks except by permission of the captain. If he is sick, he is placed in the ambulance. A halt is made every hour of ten minutes; at noon it is from a half to an hour. In passing over bridges, step must be broken. If in a dangerous country, at every halt lookouts must be placed on heights to prevent surprise; and on the march advance and rear guards and flankers must be posted. In crossing shallow streams, men should keep closed up, and not be allowed to pick their way. In deep streams, temporary bridges should be constructed as described; or, if boats can be had, the stream can be crossed in them. Every command should be provided with some kind of a boat, when marching in a rough or wild country, with streams too deep to ford. All signals for halts are arranged beforehand. Before starting, each man should examine all his clothing, and see that all spare articles required are in his blanket-bag, but must be careful not to be overloaded. Orders for the march are made known before starting. They consist of details of reveille, manner of forming and marching off, orders for baggage and guards, patrol arrangements, etc., etc.

Light marching order is in either full or undress uniform, and a soldier carries his arms, ammunition, canteen and haversack. In heavy marching order he is in undress uni-

form, and carries arms, ammunition, haversack, knapsack, canteen and blankets.

The following are the Regulations on marching of large bodies of troops :

1264. The object of the movement and the nature of the ground determine the order of march, the kind of troops in each column, and the number of columns.

1265. The "*general*," sounded one hour before the time of marching, is the signal to strike tents, to load the wagons, and pack horses, and send them to the place of assembling.

1266. When the troops should form suddenly to meet the enemy, the signal "*to arms*" is sounded, or the "*long roll*" is beaten. The troops after assembling on their company parades form rapidly in front of their camps. In the Cavalry, if the troops are to form mounted, the signal "*to horse*" will be sounded.

1267. Batteries of Artillery and their caissons move with the corps to which they are attached ; the field train and ambulances march at the rear of the column, and the baggage with the rear guard.

1268. Cavalry and Infantry do not march together, unless the proximity of the enemy makes it necessary.

1269. In Cavalry marches, when distant from the enemy, each regiment, and, if possible, each squadron, forms a separate column, in order to keep up the same gait from front to rear, and to trot, when desirable, on good ground. In such cases, the Cavalry may leave camp later, and can give more rest to the horses, and more attention to the shoeing and harness. Horses are not bridled until the time to start. The officers and non-commissioned officers of Cavalry companies attend personally to the packs and girths.

1270. When necessary, the orders specify the rations the men are to carry in their haversacks. The field officers and Captains make frequent inspections during the march ; at halts they examine the knapsacks, valises, and haversacks, and throw away all articles not authorized.

1271. When it can be avoided, troops should not be as-

sembled on high-roads or other places where they interrupt the communication.

1272. Generals of division and commanders of detached corps send a Staff officer to the rendezvous, in advance, to receive the troops, who, on arriving, take their place in the order of battle, and form in close column, unless otherwise ordered. Artillery, or trains halted on the roads, form in file on one side.

1273. The execution of marching orders must not be delayed. If the commander is not at the head of his troops when they are to march, the next in rank puts the column in motion.

1274. If possible, each column is preceded by a detachment of pioneers, to remove obstacles to the march, aided, when necessary, by Infantry. The detachment is divided into two sections; one stops to remove the first obstacle, the other moves on to the next.

1275. In night marches, and at bad places on the line of march, when practicable, and at cross-roads, if necessary, intelligent non-commissioned officers are posted to show the way, and are relieved by successive details from the regiments as they come up.

1276. On the march no one shall fire a gun, or cry "*halt*" or "*march*," without orders.

1277. Soldiers are not to stop for water unless the commanding officer deems it necessary; the canteens should be filled before starting.

1278. In night marches, the Sergeant Major of each regiment remains at the rear with a trumpeter or a drummer, to give notice when darkness or difficulty stops the march. In cavalry, a trumpeter is placed in rear of each squadron, and the signal is repeated to the head of the regiment.

1279. The General and field officers frequently stop, or send officers to the rear, to see that the troops march in the prescribed order, and keep their distances. To quicken the march, the General warns the Colonels, and may order a signal to be sounded, which is repeated in all the regiments.

1280. In approaching a defile, the Colonels are warned ; each regiment passes separately in column of fours in the order designated by the commanding officer, two battalions, when possible, marching abreast ; on emerging from the defile, the battalions form line under the immediate direction of the General, the flank battalion being so posted as to prevent the enemy from passing between them and the entrance to the defile.

1281. Halts to rest and reform the troops are frequent during the day, depending on the object and length of the march. They are made in preference after the passage of defiles.

1282. Led horses of officers, and the horses of dismounted men, follow their regiments. The baggage wagons never march in the column. When the General orders the field train and ambulances to take place in the column, he designates the position they shall take.

1283. If two corps meet on the same road, they pass to the right, and both continue their march, if the road is wide enough ; if it is not, the first in the order of battle takes the road ; the other halts.

1284. A corps in march must not be cut by another. If two corps meet at cross roads, that which arrives last halts if the other is in motion. A corps in march passes a corps at a halt, if it has precedence in the order of battle, or if the halted corps is not ready to move at once.

1285. A column that halts to let another column pass resumes the march in advance of the train of this column. If a column has to pass a train, the train must halt, if necessary, till the column passes. The column which has precedence must yield it if the commander, on seeing the orders of the other, finds it for the interest of the service.

Camping.

A camp is a place where troops are established in tents, huts, or bivouacs. *Castrametation* is the art of laying out camps.

Whenever troops are on the march, reconnoissances

should precede each establishment of a camp. Camps of an army are laid out in the number of lines or columns that the army is in, and of the length of the enemy's line of battle.

The conditions that are sought for in all camps are: 1st. *Position, defence and safety.* 2d. Water and fuel. 3d. Health. Camps should be on good ground, well drained, sheltered from streams and their overflow, and have sunny exposures. All hills and eminences near, when in an enemy's country, should be occupied by guards and pickets. When a camp is established for an indefinite period, drainage should be attended to among the first things. The different regiments camp together and the camps are laid out according to the following directions:

Each company has its tents in two files, facing on a street perpendicular to the color line. The width of the company street depends on the front of the camp.

The front of the camp should be equal in extent to the regiment when in line; from 5 to 15 paces is the width of the street generally. The tents should be two paces apart. The files of tents of adjacent companies are two paces apart; between regiments, 22 paces. The color line is a line established 10 paces in front of front line of tents. The kitchens are 20 paces behind the rear rank of company tents. The non-commissioned staff and sutler, 20 in rear of the kitchens. The company officers, 20 paces in rear of non-commissioned staff, and regimental officers, 20 paces in rear of company officers.

The police guard is at the centre of the line of non-commissioned staff, facing to the front, the stacks of arms to the left. The advance post is 200 paces in front of the color line, and opposite centre of the regiment. The prisoners' tent, four paces in rear. The sinks of men, 150 paces in front of color line; of officers, 100 paces in rear of train, both concealed if possible. When not in presence of the enemy, regiments usually camp in column of divisions, as *Upton's Tactics*, page 334, par. 751.

Cavalry.—*Upton*, see page 479, Cavalry Tactics.

Artillery.—*Upton*, see Figs. on pages 507, 509, par. 1192, 1194, Artillery Tactics.

In front of every camp there should be a parade of a size sufficient for the drill of all the troops of the camp.

When troops are on the march, a small party from each regiment should precede the column of each regiment. Upon arrival of train *in camp*, tents are pitched as follows: A line is stretched to mark the company street, the tent is closed and laid flat, four corner pins are driven in the ground, front of tent opened, the ridge and upright poles inserted, then raised and placed in an upright position, correctly aligned on what is intended to be the company street. Shelter tents can be aligned or not. If a wall tent, lay the ridge pole on the ground at right angles to the street, at each end insert the pins of upright poles so that uprights will be perpendicular to the ridge pole, then drive in four common pins for the tent corners, and if there is a fly, four outer common pins; in the tent fly put in the ridge pole and uprights, drawing the ridge of tent tightly over the pole and inserting the pins of the uprights through the eye-holes, then raise the uprights till vertical position, the corner ropes, straighten the front pole, and fasten the remaining ropes and pins.

To strike the tent, a man should stand at each pole; the pins are withdrawn, the corner pins last; the tents are then allowed to fall, all in the same direction. The canvas is then rolled up in complete bundles, the poles tied together in one bundle, and the pins put in a box or bag. Common or A tents are for the use of enlisted men. They are about 6' 10" high, 7' square, and hold 6 men.

Wall tents for officers have low walls, 3' 6" high, ridge 10' 4" high, 9' long, 9' wide. The Sibley and the conical wall tent is a circular tent with one pole, and will accommodate 16 men.

Hospital tents are 14 feet long, 15 feet wide, 11 feet high; walls, 4½ feet high.

Each tent should have a shallow trench dug around it, to carry off any rain or moisture, and the trenches should all connect with one common deep trench that carries the water away from camp. On level ground, a hole may be dug in rear of the tents that will answer the purposes of a

deep trench. Men who are not detailed for any work or duty, upon arriving in camp, immediately set to work to make the tents comfortable. When leaves or small boughs and twigs can be collected, they make the best kind of beds.*

Kitchens.—A trench from 12 to 18 inches deep and about 18 inches wide is dug when the ground is dry. If wet, sod walls placed on the level ground will do. Two iron uprights on either side of the trench support a horizontal iron rod; on this rod the camp kettles are hung; two logs about 18 inches apart make a good kitchen. A filth hole to throw slops in should be dug a few feet in rear of the kitchen. All grass in the neighborhood should be cut down to prevent it from catching fire and communicating it to the camp.

To make an oven, take a barrel with iron hoops, dig a hole sufficient to hold it, lay it in horizontally to a depth of one-fourth its diameter, cover it over with a coat of wet earth or clay 6 or 8 inches thick, except at the open end, which is to be the mouth; form an even surface or floor of mud or clay on the bottom, cover over all except the mouth with several inches of sand, earth, etc., light a fire within the oven or barrel, make a flue of two or three inches in diameter at the further end. Keep the fire burning briskly till all the staves are completely burned out, and the clay or earth hardened; scoop out the ashes, and when it is desired to use the oven, heat it up with a fire, lay the bread or food within, cover up the mouth and flue so that air cannot get in.

A hole dug some two feet deep, and a fire kept burning in it till it is full of hot ashes, forms an excellent oven; put whatever is to be cooked in covered pans, and place

* NOTE.—To heat a tent, if there be no tent stoves, build a chimney outside and close against wall or back of tent. Dig a trench from foot of chimney, passing through the tent to a fire-hole outside and beyond. Cover the trench with a layer of thin boughs and earth. Over the fire-hole place a cover of earth, leaving an opening for a draught. Light the fire. The smoke and hot air must pass through the trench and up the chimney to escape, thus warming the tent. This method is used only where a tent is to stand for some time.

the pans in the ashes, covering them up and keeping the fire burning briskly above.

Latrines or Sinks.—They should be about two feet wide at top, two feet deep, and one foot wide at bottom, about 20 feet long; the inner faces of the ditch can be riveted with brush, pickets, etc., and the earth as it is thrown out will form a bank on either side, which should be riveted with pickets, stone, sod, etc. A rail should be placed on the edge and about 18 inches above ground, for men to sit on. It can be supported by forked posts at either end. Where a command is encamped for some time at one place, the sink-holes should be six feet deep and three feet wide at top. Twice a day, in the morning and evening, the fatigue or police party should cover the bottom with a slight layer of earth or sand, and when nearly full the earth must be packed and a slight mound made above it.

Brush-wood should be stuck in the ground around to obscure the latrine from the view of the camp.

Upon arriving in camp, the following orders are issued, viz.: Fixing the hours of reveille and tattoo, guards and pickets, details and duties, police arrangements, positions of headquarters, of commissioned officers, of hospitals, arrangements for rations and forage, for letters and telegrams, and for promulgation of orders. The different details made in each company are for cooks, latrine, wood, water, rations, etc.

Permanent camps are generally intrenched, unless they be camps of instruction.

A *Cantonment* is where the troops are lodged in huts or houses.

A *Bivouac* is where they rest for a short time, and have no shelter of tents or huts.

The huts usually made by soldiers in a cantonment are the same as in camp except that in the former more latitude is allowed as to comfort.

Bivouacs are made for the night, and troops rest with their arms at hand. When fires are permitted, soldiers must cook their food over the camp-fires. Horses unsaddled have saddles placed near by. Horses are picketed.

The trains in camp are always packed in the rear of the company, and strong guards placed around them.

(The general rules for health, cooking, eating, diet, that every soldier should know and observe while in camp, or on the march, are given below.)

Upon arriving in camp, wagons are unpacked and horses and mules unhitched, watered, and then hobbled and turned out, being herded or picketed.

The fire-wood should be collected and placed in piles by the company detail, previous to arrival of main body in camp. Dry fire-wood is found under logs or roots of trees. Men should never leave camp without permission. The tents should have a rope or line stretched from front to rear pole, about six feet above ground, on which to hang clothes. Bedding should be aired daily, and tents frequently taken down and changed, and ground under tents exposed to sun for some hours.

Bunks can be made of small poles about $6\frac{1}{2}$ feet long, laid close together, the lower ends resting on the ground and the upper on a cross pole 6 inches in diameter and of a length the width of the bed, or raised entirely from the ground by forked stakes at each corner; on the poles, grass, leaves, etc., should be thrown.

In case of a fire in camp, blankets, underbrush, etc., are used to beat it out, and on a prairie a counter-fire should be started, and the place thus cleared be occupied. To keep tents from blowing down, posts may be driven firmly in the ground at the corners and the tents fastened to them, or ropes may be passed over the ridge poles, and fastened to pickets firmly driven in the earth.

Health.

Recruits and militia who are not used to camp life or marching, are liable to be taken seriously ill, if particular attention be not paid to minor symptoms, that in ordinary life would have but little notice taken of them.

Feet.—When the feet are sore or blistered from marching, a little tallow from a lighted candle, mixed with a little common spirits, and rubbed on well, will cure them.

The socks must be put on at once. A little alum mixed in with warm or tepid water will be found an excellent remedy for tender feet. Before starting on a march the feet should be thoroughly washed and then rubbed with hard soap. Woollen socks, and shoes that fit well but don't chafe, will keep the feet from being sore or blistered. It is necessary to keep the feet clean, and they should be washed every morning and night, and the nails must be cut close and square. If the feet itch from frost-bite, apply camphorated oil.* Slight frost-bites may be cured by rubbing with cold hands or flannel, and avoiding a heated room. Serious frost-bites may be cured by slipping the feet in cold water just above the freezing point, and drawing the frost out gradually.

Sunstroke.†—In case of sunstroke, the patient should be laid in a shady place immediately, and if one be not at hand, a shade must be made over him. The head must be raised, the clothes about the chest loosened, and ice or cold wet cloths changed frequently, applied to the nape of the neck and head.

Broken limbs.‡—A physician should be sent for at once. While waiting for him, if the leg of the patient be broken, place him on his other side, put flannel or cotton between legs, and lay injured leg on top of well one, and bandage both together in that position with straw, hay, grass, thin twigs, etc. A broken arm should be at once encased firmly between two pieces of board, supported in a sling. Diluted stimulants must be given internally, and the patient kept quiet and not moved till the limb is set.

Burns; Scalds.—Cover the injured part immediately with lint or cotton; if flour can be had, apply that. *Sweet oil*

* Camphorated oil, 1 dr. camphor to 1 oz. of olive oil.

† Immerse patient in cold water, if practicable.

‡ While waiting arrival of surgeon, place limb in an easy position; cold applications to prevent swelling—if necessary to move patient, suggestions laid down correct, if not unnecessary. Avoid tight bandaging for fear of gangrene. Arm, support in sling, apply cold, keep quiet until arrival of surgeon.

also is soothing. Bandage so that air cannot get to the burn.

Bites.—If from poisonous snakes, cut with a knife immediately. Suck * out the blood and poison with the mouth. Bathe in warm water to encourage the bleeding, and burn the bite with caustic or ammonia; give liquor ammonia in doses of six drops every 15 or 20 minutes for 1 to 1½ hours; strong rum or brandy can be given instead of ammonia till patient is drunk. If bite † is from scorpions, centipedes, wasps, bees, etc., apply ammonia and strong liquors. If bite is from a dog, cat, fox, wolf, etc., cut the part; apply caustic or hot iron. Apply a ligature between the wound and the body. If the bite is from carnivorous birds, suck the bite, apply ammonia and caustic, etc.

Arsenic and Strychnine.—Use strong emetics. ‡—Vitriol, muriatic and oxalic acid; give lime water at once, chalk, magnesia, soapsuds, etc., a teaspoonful of sweet oil. Avoid emetics. Caustics—gunpowder dissolved in water, copper, gum specal, etc.

Loose Bowels.—When the bowels act more than once a day, || they must be immediately attended to, as it is the first step to cholera or diarrhoea, and is sure to bring on a feeling of weakness and debility if nothing more. Quiet is the best remedy, but if obliged to march, the bowels must have woollen cloths or flannels tightly bound around them. A diet of simple rice and boiled milk must be kept up till the trouble is over. Men should be careful to be regular in habits.

* If wound is sucked, be sure there is no abrasion of membrane of mouth.

† If depression follows bite, stimulate instantly.

‡ *Emetics.*—Mustard: Tablespoonful to glass of water. Common salt or alum: Teaspoonful to glass of water. Assist action of above by large draughts of warm water.

|| In some individuals, bowels move twice a day in health. If cholera is prevailing in vicinity, looseness of bowels is suspicious, and should be treated at once.

*Bleeding.**—If a cut or hurt indicates a bleeding of a bright red color, spurting with the beats of the pulse, an artery has been cut, and the bleeding must be stopped at once. Feel with the hand for the pulsating artery, and keep a steady pressure of fingers against it; take a handkerchief or towel, or part of the clothing; tie it above the wound, pass a stick through the knot and tighten the bandage. Apply soft earth, or cotton, or silk cloth to the mouth of the wound. If a vein has been cut the bleeding will be regular and slow, and the bandage or tourniquet must be applied below the wound. Small cuts may be stopped bleeding by covering the wound with cobweb found on bushes, trees, houses, etc., etc.

Drowning.†—To restore a half-drowned man, place him in open air, face upwards; expose the chest; gently turn him over on face, and place his wrist under his forehead. If he does not breathe soon, turn him quickly on his side, rub his face and dash cold water over it, place ammonia at his nose, tickle his throat, remove boots and stockings, place feet against warm bricks or stones; if none are to be had at once, place feet against a warm stove-arch. Rub limbs upwards, steadily and with energy. If still unsuccessful, place him on face, put a folded blanket under chest, turn him on side and nearly over, then back again alternately, about fifteen times a minute.

Cooking.

The Quartermaster's Department of the U. S. Army is-

* Where bleeding vessel is deep, apply graduated compress, made by folding handkerchief in shape of cone. Secure compress over bleeding point by bandage, firmly applied.

† *Sylvester's Method.*—Place patient on back, cushion (folded coat will answer) under shoulders. Keep head in line with trunk; draw tongue forward and keep it there. Grasp arms just above elbows and draw upward until they nearly meet above the head. Then at once lower and place by side. This should be immediately followed by pressing on belly with both hands, just below breastbone. Repeat 15 to 18 times per minute. After breathing commences, warmth and friction. Artificial respiration is everything. Do not waste time trying anything else until natural respiration is restored. Continue efforts at least one hour.

sues a book of cooking receipts for use of soldiers. The following are only the most important, that every body should know :

Coffee.—The kettle or pot in which it is made should be used solely for the coffee, and at all times should be kept clean. Fill it with water, and when boiling, pour in the ground coffee. Take the kettle from the hot fire, but placed over fire so that it may be kept hot, but not boil ; let it stand for five minutes that way, then pour in sugar and let it dissolve ; pour in a quart or two of cold water, from as high as the arms can reach, but steadily, so as not to splash ; this will settle the grounds ; dip out into cups with a dipper.

Soup.—In making soup, boil until all the vegetables are tender, cut up meat in small pieces, and after boiling them off, season well. Pea and bean soup requires two pounds of salt pork to every pound of peas or beans.

Drinking and Eating.—Avoid drink of all kinds except coffee in morning and at night, and cold water on the march ; during the day drink as little as possible ; if cold water, take a long drink before going to rest, and again on getting up in the morning ; never eat heartily before any hard work, wait till the work is accomplished, and rest can be had after the appetite is appeased. Bread and soup are the best articles of a soldier's food, and all old soldiers know the value of the above directions.

The peas and beans must be soaked for six or eight hours in cold water, previously.

Meats are best cooked by roasting or boiling ; they should be cooked until tender, but never until hard and dry. If possible, it is best to avoid boiling meat, as a great percentage of the good is lost. Potatoes require half an hour's cooking, fifteen minutes of which, at least, the water should be kept at boiling point. All vegetables must be cooked till the peel or rind comes off readily, or a fork will pierce them easily ; all decayed or unripe fruit must be removed before cooking ; the water in which they are boiled should be sufficient only to cover them, and they should be kept covered until well cooked.

CHAPTER XIII.

MILITARY ROADS AND BRIDGES.

MILITARY ROADS AND BRIDGES.

Good roads have always been considered as one of the most essential conditions of successful warfare. The Romans never undertook the conquest of a country without building roads as they advanced, and many of their roads were so excellently laid that they last to the present day. In modern times the railroad has taken the place of the stone or "macadamized" roads, but in warfare there are so many sections of country, especially in the United States, that the railroad is unable to penetrate, that other roads are resorted to. Thus in crossing a swampy or low country, in passing over mountains, or through forests, it will take so much time to build railroads, that the trouble costs so much more than can be repaid by any immediate success, that corduroy or other similar roads are resorted to. The roads used and built by troops are common earth, or gravel, plank, and corduroy roads, and railroads. In making temporary military roads, the object to be arrived at is, a road that will answer for the passage of the troops and trains of the army during the war; therefore all hills are avoided if possible, also all cuttings; when necessary to pass over hills, the roads are made zig-zag in which the curves are level. The grade of military roads should never be above $\frac{1}{25}$, that is, for every twenty-five feet in length it should rise but one in height, though under urgent circumstances this may be lessened to $\frac{1}{10}$. In passing through woods, the trees and brush-wood are cut down on either side twenty feet. Military roads are from sixteen to twenty-four feet wide; two-thirds of the road is "macadamized." The maximum breadth of military roads enclosed by walls, is seven feet. In making a road,* the fatigue details follow

* The first thing to do is, make a reconnoissance. In an enemy's country, where this cannot be done, a good map will answer very well.

the line marked by the pickets driven in the earth, or the cuts on trees; the earth is thrown up at the centre of the road-way and packed. The drains on the sides are at least two feet below the centre of the road; side-drains are dug every one hundred to two hundred yards, to carry off the collections of water in the road-drains. In passing over hard or rocky beds, but little is required beyond clearing the roadway and digging drains; if the earth is soft, stones broken about the size of hens' eggs are first laid to a thickness of 6", and over this a layer of gravel 8"; if stones and gravel are hard to get, clay, burnt and packed, will answer.

The following table gives the resistance in pounds per ton offered by different roads to the ordinary Army wagons, exclusive of force of gravity:

Paved roads, 33 lbs. per ton.

Macadam roads, 45 to 65 lbs. per ton.

Gravel roads, 150 lbs. per ton.

Sand roads, 210 lbs. per ton.

Wherever lumber is cheap and plentiful, plank roads are laid in preference to others, as they make the best kind of military roads. The simplest form of a plank road is to level the ground and lay the planks directly on, and on the outer edge of the planks nail timbers or beams, 4"x4" in diameter, to each plank. A better way is to lay sleepers on the ground lengthwise; they should be laid in rows from 3' to 4' apart, and the outer sleepers should be laid double, and come just to the ends of the planks. The sleepers should be 4"x6" in size. When not to be had, plank 3" thick will do. The planks are laid across the sleepers, and leveled and spiked. The sleepers should be

From the reconnoissance or map, the course of the streams, the contour of the ground can be learned, and a general course marked out. The next step is, the survey of the route selected. From the survey, the various distances from different points are made known; also the easiest and most practicable routes through woods, over hills and streams. The route is staked out carefully, so that the fatigue parties building the road will have no trouble in following it. Where there is more than one route between two places, all should be reconnoitered, and the easiest, and safest, and most economical as regards cost of building, chosen.

sunk to a level with the surface. The spikes should be five inches long, with chisel-shaped edges, which are driven across the fibre. Wooden pins will answer if there are no spikes. Along the centre a scantling 5" by 6" is laid to keep carriages in proper place. In order that a wheel may be easily put on the road if it should go off by any chance, the planks are laid so that every two yards they project 6" beyond the others. If sand or gravel can be had, a layer of it one inch thick will protect the planks from wear for a long time.

In swampy or marshy countries, the corduroy roads are laid for military purposes. They are made as follows: logs of about twelve inches in diameter are first laid lengthwise in rows, 4' to 6' apart. On these are laid crosswise and close together, young trees 6" to 8" in diameter, and of a length of the width of the road. On the outer edges of the road trees about 6" diameter are spiked or pinned to keep the trees of the road bed in position. If the ground is very swampy, several layers of logs may be laid, as shown in Fig. 24, before the roadway itself is laid. The



FIG. 24.

trees forming the roadway are adzed where the wheels run, in order that the carriage may roll smoothly.

Railroads.

The transportation of rations and material of war, and the quickness and ease of concentrating any desired number of troops at any point, are two of the most important and hardest problems in modern warfare. The introduction of railroads has so nearly solved the difficulty that their construction, use and preservation are considered as elements of the military officer's education. In all European armies there are special corps trained especially for building and operating railroads. The subject is so important a one, and involves so much technical instruction,

that nothing more than a glance at the principal conditions can be given in this work. The two most important essentials in a military railroad are rapidity and economy in building. Grades and curves are of course avoided wherever possible, but as the principal things to be avoided are cuttings and fillings, there are of necessity more curves than in the ordinary railroad. The track is laid on the ground directly wherever the soil is hard and firm; and wherever very soft, and there are great obstacles to be overcome, detours are made to avoid them. The gauge should be the usual gauge of railroads in the country, in order that the rolling stock of such roads may be utilized. The rate of traveling, the number of stoppages or halting-places, etc., are all determined by the General commanding. In building stations, the requirements looked after are platforms from which the troops may be loaded at once, grounds near by for forming troops, and entrances, sheds for stores, also for refreshments for troops, and cooking, fuel, forage, and water for troops, animals and engines, hospitals near by, side tracks for extra cars, and shops for engines, etc., skids of wood, or sliding platforms for artillery, wagons, horses, etc. Artillery and wagon trains are carried on platform or flat cars. They are about thirty feet long and eight feet wide; they will carry two field guns and two caissons complete; also two siege guns with carriages and limbers complete can be carried on one flat car. Thirty thousand pounds is a safe load to carry. In transporting horses box cars are used; sixteen horses are put in one car. Troops are put in ordinary passenger cars; they will carry sixty men comfortably and ninety if crowded. Trains should not travel over a new road at a greater rate of speed than twenty miles an hour for passenger, and fifteen for freight trains. To supply an army of ten thousand men in the field, by one track, the proportion of rolling stock is: Twenty-five engines and six hundred cars to every mile of road. This does not take into account the transportation of the troops. A line of railroad used as the means for connecting an army with its bases is, if it be of any great length, liable to injury from

the enemy, unless thoroughly guarded. The army itself protects it from the front, but the enemy's cavalry, by making wide detours, may suddenly present themselves at some unguarded point, and tear up and twist a few yards of track, blow in a tunnel, or burn or burst up a bridge. Guards should always be stationed at the most important points, and the road constantly and carefully watched by patrols. Wherever detachments are stationed a block-house or redoubt should be built. Cavalry detachments should constantly scour the country on all sides of the line of road, to give warning of any approach of the enemy; no one should be allowed on or near the road, except those authorized. The destruction of a bridge which would require but a few hours might take days to repair, and thus the very life of the army itself be put in danger. The telegraph is an indispensable adjunct to military roads, and operators should be at every station; also squads of repair men of both telegraph line and railroad track.

The following article on railroads is taken from the work used at Fort Monroe, Va., written by Captain James Chester, 3d U. S. Artillery:

There are three objects connected with railroads which belong to the military profession. They are: 1. Railway Destruction; 2. Railway Construction; 3. Railway Management.

SECTION 1. *Railway Destruction*.—There are two cases: First, to destroy an enemy's road, so as to interrupt his communications; second, to destroy the road over which an army retreats, so as to retard an enemy's advance. The first case is generally the work of a raiding party, and must be quickly done. The attack is made wherever most damage can be done in the least time, without running too great risk. Destruction, and not fighting, is the mission of the party. Points heavily guarded should be avoided. If it can destroy 1000 feet of bridges, it matters little whether it be all in one or in ten bridges. Bridges are generally the objective with such parties, and unguarded bridges are specially inviting.

To Destroy a Trussed-Arch Bridge.—If the road is on the lower chord, insert torpedoes in the lower chord beams at the middle of the span, and explode them. They should shatter the chord beams, but will not bring down the span. Insert torpedoes in the first braces from the pier or abutment, and also in the arches near the heels, and explode them, and the span will come down. If the road is on an upper chord, insert torpedoes in the upper chord beams, at the middle of the spar,

and explode them. Insert torpedoes in the end braces, and in the arches as before, and explode simultaneously.

To Destroy a Railway Trestle Bridge.—If there be no danger in delay, the bridges may be destroyed by fire. The fire should be started at both ends of the bridge. Oil poured on the timbers will accelerate the fire. If in a hurry, destroy the stringers and longitudinal braces which bind the first trestles to the abutments, at both ends of the bridge. Insert torpedoes in the upper ends of the trestle legs of at least three trestles near the middle of the bridge, and explode simultaneously.

To Destroy an Iron Bridge.—The speediest and most effective way is to plant mines behind the abutments, and blow them down. The mines should be sunk so that the line of least resistance will pass through the masonry. The charge of powder in pounds is equal to the square of the line of least resistance multiplied by the width of the abutment. If supplied with proper tools, iron braces and bars may be bent and broken.

The bridge torpedo consists of a bolt 8 in. long, $\frac{7}{8}$ in. diameter, with a head 2 in. diameter and 1 in. thick; a tin cylinder $1\frac{3}{4}$ in. diameter is around the bolt and resting in the bolt-head. A washer and nut which screws on the bolt holds the cylinder in place. A hole is in the washer through which the fuse is inserted. The cylinder is filled with gunpowder. To use the torpedo a two-inch hole is bored in the timber, and the torpedo inserted, head first; the fuse is then lighted.

To Destroy the Track.—When a desirable bridge is not available, the road may be cut by destroying the track. This is best done by using a tool called the U wrench. It is made of iron or steel, about a foot long, shaped like the letter U, and weighs about $6\frac{1}{2}$ lbs. The branches of the U are 7 inches apart, and their upper extremities are provided with claws to lay hold of the rail. A lever 5 inches in diameter and 12 feet long, and a rope 6 yds. long are required; also a small block of wood to use as a fulcrum. The U wrench is slipped under the rail claws up, the claws are made to lay hold of the bed-plate of the rail. The rope is then attached to the end of the lever, the lever is raised and the butt end inserted in the loop, the wedge or fulcrum placed between it and the rail, the rope manned and the rail is twisted. Two machines may be used at the same end of the rail at the same time, and the rail so twisted that it has to go to the rolling mill to be made serviceable again. To operate the U wrench requires about ten men. A party organized to destroy a railway should be divided into squads of that size, with the necessary non-commissioned officers. The outfit to each squad should be 2 wrenches, 2 axes, and 2 pieces of rope. An expert squad can twist a rail in 5 minutes. This would make for 20-foot rails 240 feet of rail per hour, or one mile of track for 40 squads in one hour.

Railway Destruction in Retreat.—The retreating army should be one day's march behind the destruction corps. Track lifters in this case should be provided with the most approved tools for their work. As

the rails are ripped up they should be sent to the rear on flat cars. Ties should be burned. Bridges, culverts, retaining walls, water tanks, depots, etc., should be destroyed.

If the object be to simply disable a railway temporarily, that the enemy may be deprived of its immediate use, then tanks, depots, shops, etc., can be burned, and portions of tracks, on high embankments, lifted bodily and thrown over the embankment.

SECTION 2. *Railway Construction.*—Although it is sometimes necessary in military operations to construct short lines *de novo*, the more common case is the reconstruction of a line that has been destroyed. In case of entirely new lines, all preliminary operations of reconnaissance, survey, plotting, grading, etc., have to be gone through with. In case of reconstruction of old lines, it is dispensed with almost entirely. If the track to be laid is the standard gauge, 4 ft. 8½ in., the width of road bed should be 10 feet; if it is double track, road bed should be 20 feet. Instead of the surfacing with which a common road is finished, a railway bed is covered with from 9 to 12" of gravel, gravelly earth, cinders, broken stone, or other gritty material that will pack well and allow water to pass off.

Railway ties are about seven feet long, hewn from round sticks to a thickness of six inches. They are hewn only on two opposite sides and have a bed and bearing surface of six inches. They may be oak, chestnut, or pine; oak is the best. They are laid about three feet apart from centre to centre, and embedded in the ballast at least two-thirds of their thickness.

Track-laying gives occupation to four squads of men, tie-carriers, tie-layers, rail carriers, and rail-setters. The second and fourth should be skilled workmen, supervised by men familiar with the work. The first and third are laborers under non-commissioned officers. A car is brought up with rails and ties both, two rails to eight ties, and the carriers should be numerous enough to lift the load at once. The empty car is run to the rear, and a full one brought up, by a shunting engine. Spikes and fish-plates sufficient for the number of rails carried, are part of the load of each car. Material required per mile is 440 rails, 24 feet long, 440 pair fish-plates, 1760 fish-plate bolts, 7920 spikes, 1760 sleepers or ties. Add 10 per cent. of all items except rails, for wastage. Where there is but a single track, there should be many turn-outs. The parts of a turn-out are the switch, the points, the curved track, and the siding. The switch is a portion of the track about 15 feet long, so arranged that the rails can be slipped to one side by a lever, the points or ends of the rails moving about four inches. The siding is the part of the turn-out parallel to the main track. It should be connected with the main track at both ends. In laying track on a curve, the outer rail is elevated more or less to overcome the tangential force of the train. The amount of elevation depends on the radius of the curve and the speed of the train. As rails expand and contract with heat and cold, allowance should be made of $\frac{7}{32}$ of an inch for 24-foot rails at

60° F., or $1\frac{1}{2}$ if laid at 32° F. In laying rails, four spikes are driven in each tie.

SECTION 3. *Railway Management.*—Railway management comprises two distinct parts, namely, the Department of Accounts, and the Department of Operation. These departments are independent of each other. The first receives, audits, and consolidates all accounts of money and property pertaining to the road, and makes all payments. The second is the executive or working part, which runs trains, depots, purchases all necessary stores, makes repairs, etc., and operates the telegraph line. The Department of Accounts consists of—

1 General Superintendent of Accounts . Brigadier General.

GENERAL STAFF.

1 Auditor of Accounts Colonel.

1 Chief Paymaster “

And for each Division in operation :

1 Paymaster Major.

1 Inspector of Accounts “

The number of clerks allowed, to be commensurate with the business of the roads.

The Department of Operation consists of—

1 General Superintendent Brigadier General.

EXECUTIVE STAFF.

1 Chief Engineer Colonel.

1 Master General of Transportation “

1 Master General of Motive Power and

Rolling Stock “

1 Inspector General “

1 General Supt. of Telegraphs “

1 Surgeon-in-Chief “

For each Division in operation :

1 Division Supt. Lieut. Col. or Major.

1 Division Engineer Captain.

1 Division Master of Rolling Stock, etc. “

1 Quartermaster “

1 Division Supt. of Telegraphs “

1 Assistant Surgeon “

For each Section :

1 Section Inspector Lieutenant.

1 Section Engineer “

For each Station :

1 Station Master Captain.

1 Train Dispatcher Lieutenant.

1 Freight Agent “

1 Telegraph Operator Sergeant.

For each Train:

1 Conductor	Lieutenant.
1 Guard	Sergeant.
1 Engine Driver	Staff Sergeant.
1 Stoker	Private.
2 Brakemen	Corporals.

The General Supt. commands the whole department.

The Executive Staff under the Supt. control and command their special branches of the department. To them all reports and returns are made, and through them all orders from higher authority are transmitted.

The Division Supt. commands everything in his division, and is responsible for its efficiency.

The Division Engineer is responsible for the condition of the permanent way, bridges, buildings, etc. The Section Engineers are under his command, and through them he controls all the engineering work in the several sections of his division.

The Division Master of Motive Power, etc., is responsible for the condition of everything on wheels. He commands the workshops and workmen of his division, and superintends the building and repairs of engines and cars, and the purchase of materials.

The Quartermaster purchases and issues all fuel and oil and expendable stores required for the operation of the trains of his division.

The Supt. of Telegraphs is responsible for the condition of the telegraph plant, and the efficiency and attention to duty of the operators of his division.

The Ass't Surgeon is charged with medical attendance on officers and men of his division.

The Section Inspector is responsible for the condition of his section, and daily reports the condition to the Division Supt.

The Section Engineer reports to the Division Engineer upon the engineer work of his section.

The Station Master is commanding officer of the station. All reports going up and orders going down pass through his hands, if they pertain to his station, or officers and workmen connected therewith.

The Train Dispatcher is the Station Master's adjutant. To him conductors of trains report their arrival. From him they get their instructions and orders on departure.

The Freight Agent is the forwarding quartermaster of the station.

The Telegraph Operator is responsible to his own chief for the plant and condition of the office, but as far as his duties are concerned he is under the control of the station master.

The Conductor commands the trains. The Guard knows the contents and destination of every car in the train.

Divisions are not of the same length and importance. They average 100 miles long. A section is about 25 miles long.

Bridges.

The subject of bridges is as important to the military officer as roads. An army on the march will come across streams large and small that will impede its march, and perhaps imperil the success of the campaign, unless some way of crossing is speedily found; or the line of communication may be broken because of the destruction of a bridge on the route, and it becomes necessary to repair it immediately. There are three ways in which troops cross rivers, streams, chasms, etc., viz: fords, ferries and bridges. Wherever the water in the river is not too deep or rapid, and there is a good river bottom, fords are made use of. The water should not be over three feet deep for Infantry, and four for Cavalry. Whenever possible to cross in some other way, Artillery and trains will not use fords, unless depth of water is under two feet, and the bottom hard and firm. The force of the current is broken by Cavalry stationed across the stream and above the ford. Fords should never be crossed without examination first, and after every freshet a new examination should be made. A ford can be rendered impassable by digging trenches across it, or by dumping logs with large branches across it. The direction and extent of a ford should be marked by poles. A bottom of large stones is bad for cavalry, and impracticable for artillery or trains. *Gravel* is the best bottom.

When a river has to be crossed, and no knowledge is had of the fording places, the condition of the bottom may be ascertained by sending a man across, who is a good walker and also a good swimmer. By walking rapidly, he will not sink, if he comes to quicksand. Then a number of men cross rapidly, packing the bottom, to prepare the way for wagons, if there be any to follow. Horses and mules should be watered before entering the water, and then crossed rapidly without stopping, and wagons must be driven steadily and rapidly. If the mules or horses lie down they must be pulled out with ropes. Double teams should be attached, if the bottom is bad. If the water is high enough to reach the wagon beds, the bed should be raised on blocks placed at each corner under

the bed. Mounted men should ride ahead of the first team, leading it by a rope, and a man may also be placed on the lower side of the team to urge it. If rivers are swift, they should be forded obliquely, as there is considerable assistance from the current, in forcing the wagon across. If the landing place be soft and yielding, a good bottom should be made of brush and earth. In swimming horses across, the rider should have a loose rein and never pull, except to guide the horse. He can steady himself by holding on to the mane. If he dismounts and swims with his horse, he should hold on to the tail, and guide the horse by a strap or rope attached to the bit.

Whenever the nature of the bottom makes a crossing impracticable, and there are no bridges near, crossing is done by means of a ferry. A raft, or flat-boat, with ropes at both ends stretching across the stream to pull from side to side, is the simplest kind of ferry. The rafts or boats may be propelled by oars, or carried across by the current. In this latter case, a rope is stretched across the water tightly, the boat is attached by a traveling pulley and rope at the bow to this rope, and by means of a rudder, it is made to have and keep an angle of 55° with the rope.

The action of the current against the sides of the boat pushes it across. Where the width of the stream is 150 yards or less, the rope is stretched above the water and the ferry called a trail-bridge. Where the width of the stream exceeds 150 yards, the rope is anchored at intervals in the stream and the ferry called a flying-bridge.

The boat may be attached to the main cable by two ropes and traveling pulleys, one at the bow and the other at the stern. The last should be a longer rope than the first, in order that the boat may make the necessary angle to the main cable.

If it is necessary to make a raft, small trees are cut down and laid in rows. On top of them is put another layer of logs at right angles to the first. If necessary, a third layer can be put down at right angles to the second; holes two inches in diameter are bored through the logs where they cross each other, and stout pins (wooden) are

driven in the holes and wedged in, to hold the logs firmly together. If possible, the timber should be coated with tar wherever the limbs have been cut off, and at the ends, to prevent absorbing water, which will increase the weight of the raft, and decrease its buoyancy.

A bridge called the "Floating Bridge," is often used when casks or boats are at hand. It is made by calculating first the amount of floating power the bridge should have, which is for artillery 525 pounds per running foot, and for infantry 350 pounds. To this should be added the weight of the bridge, which will average 100 pounds to the foot.

Cubic contents of cask may be calculated as follows: Cubic contents = $\frac{1}{3} L \pi (r^2 + R^2 + \nu R)$ in which L = length of cask, $\pi = 3.1416$, ν = radius of head, and R = radius at bung. Multiply cubic contents by 62.5 = displacement; deduct from this weight of cask. Result is floating power.

The casks are placed in rows of six, eight, or ten each, and a double row of casks forms one pier; the piers should be about ten feet from each other. On the piers, beams are laid, and planks are then nailed to the beams crosswise. Streams over three feet and less than six feet can be covered by ladder bridges. They are made by running out into the stream a trestle, or a ladder, or a cart, and securing it there, with its shafts or pole in a vertical position; by ropes tied to the trees on the bank, ladders are then laid from the banks to the cart, and planks laid on the ladders. The bridges just described are used wherever no better can be had. In all armies, however, there is a construction corps, whose duty it is to have bridges all ready made and ready to be laid whenever necessary. The engineers generally have charge of the construction and building of bridges. These bridges are divided into two classes: 1st, those with fixed supports, and 2d. Those with floating supports.

FIRST CLASS. *Bridges with Fixed Supports.*—The supports used are piles, trestles and crib work. Where the bridges rest on piles, they are generally preceded by pon-

toon bridges, over which the army has crossed, which are taken up as soon as the pile bridge is finished. The piles used are those cut down in the country surrounding. When the current of a river is so rapid that it will not admit of using a pile-driver with advantage, or the bottom is rocky or hard, so as to prevent the driving of piles, cribs, or large open-work boxes, are made of rough timber, and towed out in the stream and loaded with stone till they sink to the bottom. Crib-work supports are also used as pile supports for bridges of the army line of communication, and where the river is very wide.

Trestle bridge supports are made of wooden frames consisting of a horizontal beam supported by two or more legs. To make the bridge, several trestles are placed in the water, and connected by beams over which planks are laid. Trestles of different sizes, with corresponding beams and planking, are kept all ready made by an army on the march. Trestle bridges are used in streams 6 feet in depth, and with not a greater rapidity of current than 4 miles per hour. The form and appearance of the two-legged trestle is given in 2 Fig. 25.

We insert here a few paragraphs from Capt. Chester's work on Military Bridges.

Scarfed Stringer Bridge.—Where stringers of sufficient length to reach across the span cannot be procured, or are too heavy for convenient hauling, resort is had to the scarfed stringer bridge. It is assumed in this case, that this is to replace a bridge destroyed, the abutments still standing, and material on both sides. For a span of 20 to 30 feet, six stringers 25 feet long and 6 inches in diameter, their smaller ends prepared for scarfing; that is, hewed on their upper side for a distance of 18 inches, and then pushed out from the abutments 10 feet. They are laid two feet apart from centre to centre, their shore ends securely anchored down and secured by laying a corduroy road of heavy logs. Six short stringers, 8 to 12 feet long, and 10 inches in diameter, and their ends scarfed on the under side; they are then passed across the gap, and laid accurately on the long stringers. Two three-inch auger

holes are bored in each end, and hard wood pins driven and wedged at the ends. Planking or flooring poles are then laid.

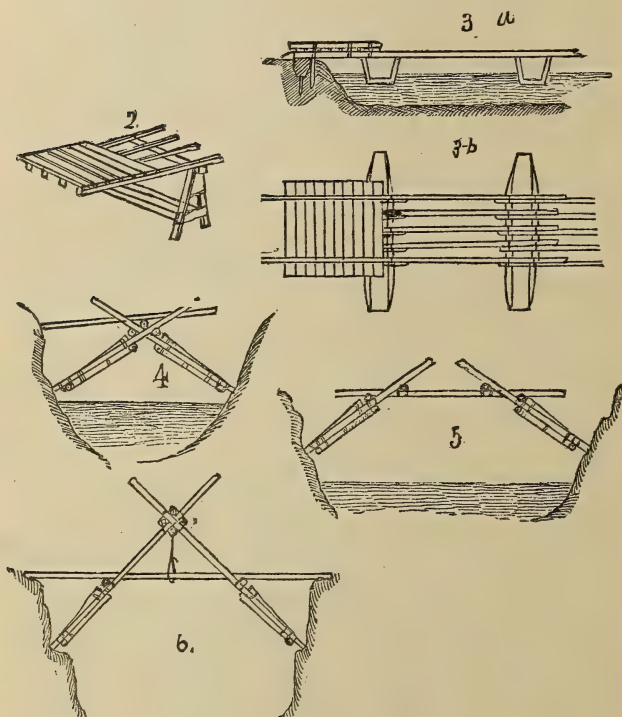


FIG. 25.

The six-legged trestle is made of round logs, and composed of four vertical legs, six inches in diameter, two bracing legs, six inches in diameter, one cap or girder,

eight inches in diameter and twelve feet long, two foot pieces, eight inches in diameter, three feet long, ten white oak pins, three inches in diameter. No tools are required for making this trestle, except axes and augers. For raising the trestles, two sliding beams, eight inches in diameter, and twice the length of the span, four short rollers, two of which are 12 inches in diameter, and two 26 inches.

To make the trestle, first ascertain depth of water and determine length of trestle-legs accordingly. Select a level spot near the water, and construct a framing platform. This consists of two logs parallel to each other and the width of the bridge apart, laid with an inclination to the water. The upper face of the platform logs should be hewed. They are designated *right* and *left*, with reference to the trestle-legs as they lay on the platform. Then lay logs of requisite length for trestle-legs on the proper sides of the platform. The cap-piece is laid across at the height of the roadway, the foot pieces across the feet of the trestles. The other two vertical legs are laid on top, resting on the cap and foot pieces, and auger-holes bored through the three legs at each corner. Pins are then driven, and if necessary, wedged, and the bearing legs pinned to the foot pieces. The trestle is then launched, and towed or poled into position for hoisting. Meantime, preparations for hoisting have been going on. The sliding beams have been advanced, one on each side of the road, until their front ends are over the position of the foot trestle; the large roller in front a very little in advance of the centre of gravity of the beam, the small roller in the rear. The trestle is brought abreast of the bridge head, the cap towards the bridge, the sliding beams are lowered by raising their ends until they nearly touch the water; short slings are passed around the ends of the sliding beams. The trestle is then raised slowly by lowering the rear end of the sliding beams, until it hangs directly over its place. It is then allowed to drop into position, by raising the rear ends of the sliding beams; the side stringers are slipped across the span and secured, the bracing legs are driven into place and pinned, short pieces are spiked or

pinned across the vertical legs under the ends of the cap piece as supports, and the trestle is finished. The stringers and floor are then laid.

Paine's Trestle Bridge.—Where a stream intercepts the march of a detachment, and it is desired to simply get the detachment across in a short time, with little labor, and in streams not over 6 feet deep, the following method is used: Trees are felled into the stream and trimmed of their branches. Bore 2 3-in auger-holes near the butt end about 3 inches apart, and making an angle of 30° with each other. Cut, trim and insert in the holes legs of sufficient length to raise the butt of the log the desired distance out of the water. Pass a rope once around the butt, and make fast to one of the legs. Float down the stream to the position desired, butt end first. When the butt end of the log has arrived on the line of the bridge, the end of the rope is thrown to parties on the shore, who haul upon it until the log is turned upon its feet. The effect of this, and the action of the current, is to sink the top end of the tree and keep it on the bottom. A bracing leg is then prepared, its foot set down stream, so as to give it an inclination of about 45° , and its top driven hard between the two legs already in position. Log after log is thus placed until these improvised trestles reach across the stream. Stringer logs are cut, and floated down stream, and rolled up the incline of the trestle logs in position—the smallest being placed on the upper, the largest on the lower side, to level the roadway.

The most valuable of all bridges to an army is the pontoon bridge, in which the supports are floating. A pontoon is a boat of wood 31 feet long, 5' 5" wide at the top, and 4' 5" wide at bottom, 2' 8" deep. The bow and stem are built higher than the body of the boat. The bow is 22 feet 9 inches wide, and the stem 4' 8". A pontoon of the size above has capacity to carry 40 men, armed and equipped, and its crew of 7 men (pontonniers) also. To make a pontoon bridge, the site is first selected, the pontoons brought to the banks near by; close to the bank a pontoon is anchored securely, its length at right angles to the

direction of the bridge. Five beams or balks, which are of white pine, measuring $27' \times 5'' \times 5''$ each are then brought, and their ends are lashed to the outer gunwale of the boat. On the under side of each balk is fastened a small cleat, called a *claw*. The claws are seven inches long. The balks are lashed to the boat with one-inch manilla rope, called rock lashings. The anchor is then taken up, and the pontoon pushed out till the shore end of the balks rest on a string beam planted in the earth firmly, and called an abutment sill. The boat is then securely fastened to the shore by cables. Planks called *chess*, of white pine, $13'$ long, $12''$ wide, and $1\frac{1}{2}''$ thick are then laid along the balks till within one foot of the boat. Another pontoon is then brought alongside of the first, and five balks are lashed to it as to the first, and it is then pushed out till the inner ends of its balks rest just inside the outer guards of the first boat. The second boat is securely anchored in the stream at both ends; the two sets of balks are then lashed together, and chess laid till within one foot of the second boat. The distances between the boats are termed *bays*, and as each bay is covered, side rails or balks are laid on the outer edges of the flooring, and lashed firmly to the balks. The first bay is sometimes strengthened by two additional balks. The bridge is continued in this way till the river is crossed (see 3, Fig. 25).

Pontoons are carried in special wagons, and a pontoon train accompanies each army in its march. As soon as the army and its material has crossed, the pontoon bridge is replaced by one of trestle or truss work, and the pontoons taken up for other crossing.

The U. S. Army organization carries in each pontoon division all the material for a bridge $220'$ long.

The Reserve Bridge Equipment is divided into trains, the trains into divisions, the divisions into sections.

Sections are Pontoon Sections and Abutment Sections.

The Pontoon Section consists of 3 pontoon wagons and 1 chess wagon.

The Abutment Section consists of 1 pontoon wagon, 1 chess wagon, and 1 trestle wagon.

The Division is the unit of the equipage. It consists of 2 pontoon sections and 2 abutment sections, and contains 14 wagons, namely, 8 pontoon wagons, 4 chess wagons, 2 trestle wagons. In addition, there is a tool wagon and a traveling forge.

A division carries material for 11 bags, 7 pontoons, 2 abutments and 2 trestles—225 feet.

The train has 4 divisions, 3 officers, 5 non-commissioned officers, and 56 privates.

The Advance Guard Equipage consists of the same number of wagons, officers and men. The pontoon carried by it is made of canvas, and all its material is lighter and easier to transport.

Temporary bridges may be easily constructed of timber when advisable, as shown by the illustrations 4, 5, 6, Fig. 25. They are termed the single lock, double lock, and single sling respectively.

A site for a military bridge should be chosen with reference to the following considerations: It should be at a place where it can be sheltered from the fire of the enemy, and as far as possible from his view. It should be as near by the troops using it as possible. The banks should not be high, and there should be in the near neighborhood good positions for artillery. The river bed should be firm, the current not rapid—the stream, in case of a freshet, not liable to overflow the ground. Guards are placed at both ends of the bridge, who see that infantry always break step marching over; that cavalry dismount and lead their horses; that wagons crossing are not too heavily loaded, and cattle are driven over six or eight at a time, and in no larger droves. Other guards, furnished with boats, grappling irons, etc., are stationed above the bridges, and watch out for anything coming down the stream liable to injure the bridge.

Railroad tracks are never laid on pontoons or floating bridges; only on bridges with fixed supports.

Safeguards.

Safeguards are protections granted to persons or prop-

erty in foreign parts by the commanding general, or by other commanders within the limits of their command.

1084. Safeguards are usually given to protect hospitals, public establishments, establishments of religion, charity, or instruction, museums, depositories of the arts, mills, post offices, and other institutions of public benefit; also to individuals whom it may be the interest of the Army to respect.

A safeguard may consist of one or more men of fidelity and firmness, generally non-effective non-commissioned officers, furnished with a paper setting out clearly the protection and exemptions it is intended to secure, signed by the commander giving it, and his staff officer; or it may consist of such paper, delivered to the party whose person, family, house, and property it is designed to protect. These safeguards must be numbered and registered.

The men left as safeguards by one corps may be replaced by another. They are withdrawn when the country is evacuated; but if not, they have orders to await the arrival of the enemy's troops, and apply to the commander for a safe conduct to the outposts.

1087. Form of a safeguard:

By authority of ——— ———.

A safeguard is hereby granted to [A. B———; *stating precisely the place, nature, and description of the person, property, or buildings.*] All officers and soldiers belonging to the Army of the United States are therefore commanded to respect this safeguard, and to afford, if necessary, protection to [*the person, family or property of* ——— ———, *as the case may be.*]

Given at Headquarters, the ——— day of ———.

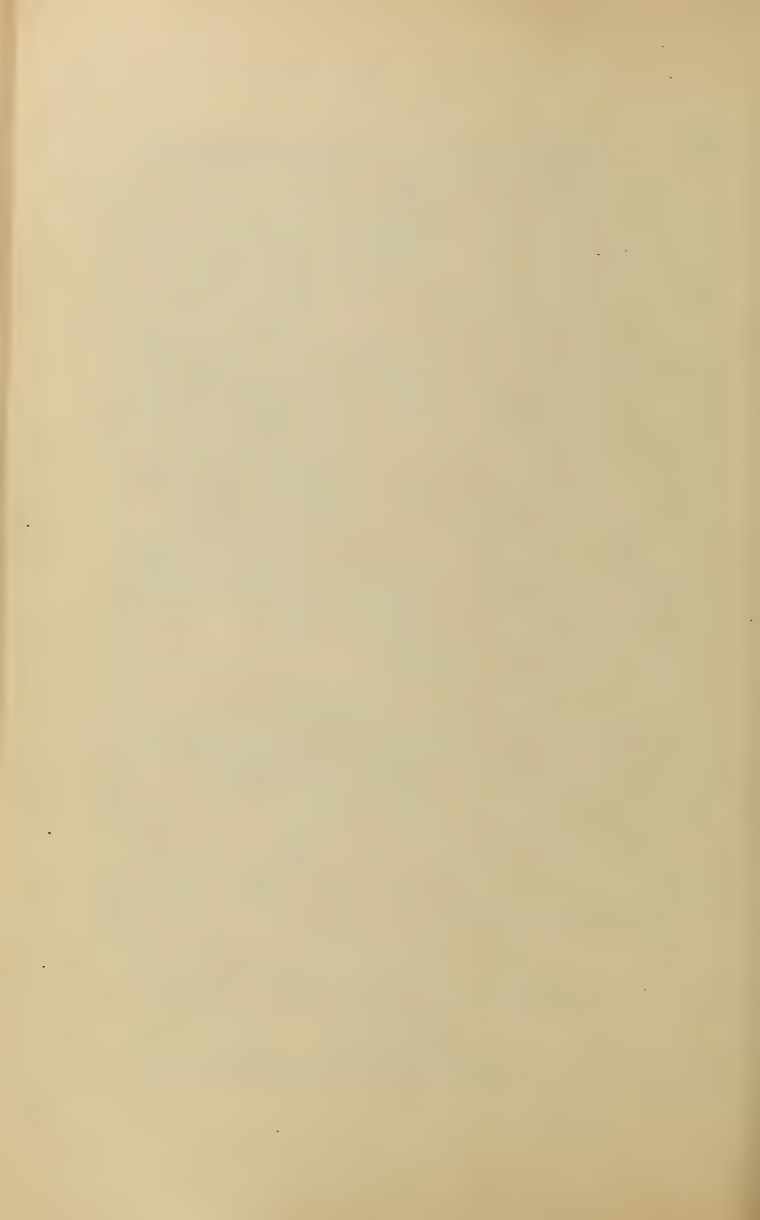
A. B———,

Major General commanding-in-chief.

C. D———,

Adjutant General.

(See 57th Article of War.)



CHAPTER XIV.

MILITARY ENGINEERING.

GENERAL DEFINITIONS.

HASTY FORTIFICATIONS.

FIELD FORTIFICATIONS.

REVETMENTS.

OBSTACLES.

**ATTACK AND DEFENCE OF FIELD
LINES AND WORKS.**

DEMOLITION, ETC.

MILITARY ENGINEERING.

Military engineering is that branch of the art of war which has for its object the arrangement and strengthening of positions whereby an inferior force may successfully resist a superior one ; also the method of removing obstacles and reducing positions, which are strengthened or fortified by artificial means. The artificial means by which positions are strengthened are termed *fortifications*. There are two general classes of fortifications—*Permanent*, and *Temporary*.

Permanent fortifications are those usually built in time of peace, and are designed to last a long time. They fortify positions of great importance, and are therefore built of durable and strong materials, and occupy considerable time in building.

In the United States they are found on the sea-coast at the entrance of the principal harbors and rivers. They are mostly built of masonry and earth. Modern permanent fortifications are built of large masses of earth or sand supported by walls of masonry or concrete ; or they are revolving turrets of iron or steel plates. The entire subject of *Permanent Fortifications* is so scientific and important a one, that it is entrusted to those only who have made a special study of it.

Temporary fortifications are those built in a short time, generally after a war has commenced. They fortify positions that acquire only a temporary importance while the war continues ; and are built by the labor of the troops, and are called Field Fortifications.

Temporary Fortifications are divided into two classes : *Hasty* and *Ordinary* fortifications.

Hasty Fortifications are those built very quickly, generally in the presence of an enemy, and are therefore very imperfect in construction.

Ordinary Fortifications are those constructed in a short time, but not in the presence of the enemy as a rule, and therefore there is time to finish them.

Field Fortifications are also divided into *Field Works* and *Field Lines*. The field works are to protect a small body of men, and do not cover, as a rule, a very great extent of ground. Field lines are built to protect a large body of troops, and cover an extended area of ground.

Field works and lines as a rule come under the head of Ordinary Fortifications.

In building fortifications there are certain primary conditions to be fulfilled, in order to make the positions defensive ones. These conditions in brief are: 1st. A shelter to protect the defenders from the missiles of the enemy, and to screen them from his view. 2d. A command over the surrounding country so that an enemy cannot approach within cannon shot without being seen, and exposed to the fire of the defenders. 3d. The arrangement of the fortification should conform to the nature of the ground, so that the defenders may not be impeded in their work of defense under any condition.

These conditions are satisfied by taking possession of ground that commands all other within range of its guns, and throwing up earth to shelter the defenders, removing any obstacles that impede their free movements, and placing obstacles in the way of the enemy, or by locating the fortifications where there is some natural defence between it and the enemy, as a river or swamp, etc., etc.

Hasty Fortifications.

The study of hasty fortifications has become one of the most important branches of the science of War. This is due to the great range, precision and power of modern guns, which renders shelter of some kind absolutely necessary in order to maintain a close formation of troops, or even to hold them together sufficiently to command their movements. Men engaged in battle are obliged to seek shelter of any description, and therefore the first step in fortifica-

tion is to teach each man how to take advantage of every natural shelter, such as a bush or log, a slight inequality in the ground, and even a tuft of grass. This kind of fortification is taken advantage of only when there is no time to prepare any artificial means, and the soldier must fight and hide himself as he best can. When there is a small amount of time, he throws up the simplest kind of hasty fortification, called intrenchment. This is done by digging a shallow trench in which he may lie down, and the earth excavated thrown up in front of him will afford a shelter from the enemy's view. Such trenches are designated shelter trenches. When the earth is excavated enough to allow the soldier to remain in a sitting or kneeling posture and be screened from the enemy's view, it is called a rifle pit. A shelter trench is constructed by digging first a trench one foot three inches deep, and throwing the earth in front of it, forming a mound or parapet. The width of the trench is two feet, and its size is only large enough to shelter one man. It can be thrown up by one man in fifteen minutes. (See 1, Fig. 26.) This trench may be deepened (see 2, Fig. 26) in forty minutes' time, and shelter two men. A rifle-pit is a hole dug in the ground, four feet deep and four and one-half feet in diameter at the top and two and one-half feet in diameter at the bottom. In front the earth excavated can be piled, making a parapet one foot high. It takes a man two hours to make a rifle-pit (see 3, Fig. 26).

Shelter trenches should be joined together so as to form one continuous trench if time allows. In rear of the shelter trenches additional ones may be dug for the shelter of supernumeraries. When there are several field works, covering a large piece of ground, they may be put in communication with each other by connecting them by shelter trenches. In such a case, and to shelter infantry troops thoroughly, they should be of the dimensions and size given in 4. If it is not to be used, however, for the passage of artillery or cavalry, it is dug as in 5.

Shelter trenches follow the contour of the ground, and are never made in a straight line unless there is some marked advantage to be gained by so doing.

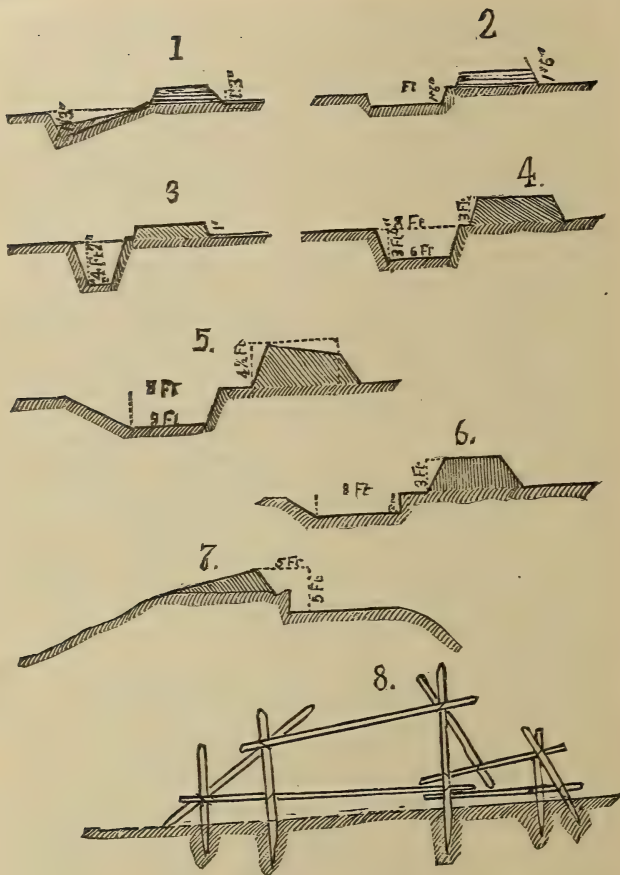


FIG. 26.

A gun pit is made for the protection of artillery. It is made as shown in 6, and of the dimensions there given. Six men can dig a gun pit for one gun in one hour in ordinary earth. Shelter trenches for guns are usually made on the reverse slope of ground as in Fig. 7. In throwing up hasty fortifications, troops are rarely given shovels and picks, but dig and scoop out the earth with knives, tin cups and plates, bayonets or other instruments they may carry with them. In digging a line of intrenchments, troops go to the position marked out by stakes in the ground; and while one rank digs with shovels and picks, etc., the other rank rests on the ground some yards in rear, with their guns ready in case of an attack. The diggers are frequently relieved.

All impediments, such as stone walls, fences, woods, houses, roads, etc., may be utilized as hasty fortifications, and all commanders should frequently exercise their men in such drills.

High stone walls have loop-holes made in them, and the space in front of them filled with obstacles to an enemy's progress. Low stone walls can have shallow trenches dug in their rear, and the earth thrown over the wall so as to cover it. Wooden fences and hedges can be utilized in a similar manner, and by rolling logs, piling rails, etc., in front of them.

Woods are formed into defences by taking shelter behind the trees, or by cutting down the trees ("slashing"), leaving stumps, logs, branches, etc., just where they fall. A serious obstacle is thus presented to an enemy's near approach.

Houses are made into defensive positions by knocking out all the glass and boarding up the doors and windows. Then earth is thrown up all around that part of the house exposed to an enemy's fire as high as possible, and a ditch formed around the house, outside the embankment; barrels and buckets of water are placed in every room as a protection against fire, and loopholes are cut through wherever possible, and a good result can be obtained. The roof and floors are strengthened by additional beams

and joists. For some space in front of the house the ground is cleared sufficiently to see an enemy, but filled with obstacles to prevent his getting at the house easily.

In defending positions of great extent, as a camp, etc., the same general measures are taken. If there are field works in or about the position, they are connected by shelter trenches. The ground is then cleared from six hundred to one thousand yards in front of the position, and covered with obstacles.

Rifle pits give shelter, and are made in front of shelter trenches. Arrangements for perfect communication, either by signal stations or telegraph, are made; also for food and water. The distances from any part of the position to different marks outside are measured and made known; and finally, inside nothing is left undone to impede the free movements of the defenders.

Ordinary Field Fortifications.

The first thing to consider in building a field fortification is the site or location. This location is termed the *position*, and it should be chosen on the general principle that it is such a place whereby an inferior force may successfully defend itself against a superior one.

There are of course many other considerations that may arise, but what they are can only be determined by the peculiarity of the position itself. After the position is taken, the next step is the "tracing" or marking off of the exterior lines of the work on the ground, and the dimensions according to the plans of the engineers in charge. At the principal points of the exterior lines pickets are driven into the ground; then lines are drawn by means of a pick, a pointed stick, or other instrument on the ground from picket to picket. The exterior lines being known, the next step is to get the height and thickness of the different parts of earth to be thrown up. This is called *profiling*. It is done by driving into the earth sticks, and nailing lath across, and running cords across, so that the outline thus formed will show the different parts (see 8, Fig. 26) of the work to be thrown up. After the profile of the

different parts of the work is made, then the working parties go on the ground.

They first remove all the brush, sticks, and stones, and pile them on the ground over which the earth is to be piled. The men are distributed over the ditch, about one man to each yard. To every three men with spade or pick there should be two men with shovels. As fast as the earth is loosened from the ditch it is thrown up to form the embankment or *parapet*, as it is termed. There should be for every three shovelers one man on the parapet to level the earth and give it the proper shape and slopes; of course, in hard or rocky soils the proportion of men with picks to those with shovels will vary, and must be determined in each case by the nature of the soil to be excavated. The squads are each in charge of a non-commissioned officer, who is responsible for the work done on the space allotted to him. The several squads constitute a fatigue detail, which is commanded by a commissioned officer. In easy or soft soil one man can excavate one cubic yard of earth an hour, and in hard soil about one-half cubic yard in one hour. A shoveler will be able to throw the earth horizontally twelve feet, and vertically six feet. When the embankment exceeds six feet in height, there should be four instead of two shovelers. The fatigue details generally

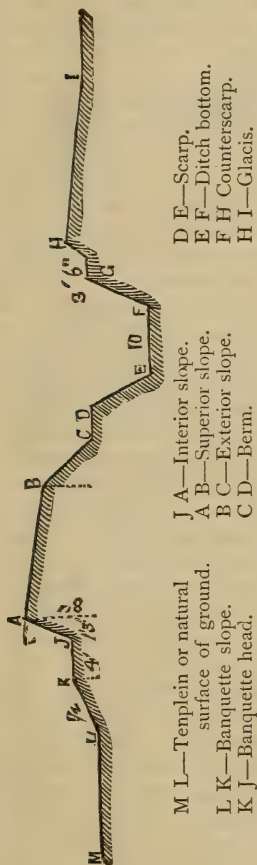


FIG. 27.

work six hours, and then are relieved by other details. After the embankment has reached that height, additional working parties are then put behind it to form the supports for the embankment (see Fig. 27 which gives in detail the different parts of the ordinary field-works, and their names and dimensions). After the ditch has been excavated, its sides are given the proper slopes, and that part of the work beyond the ditch is then thrown up.

Revetments.

The interior slopes of the parapet are supported by various means, which are termed in general "*revetments*." Any means which can be used to protect earth from falling from any desired slope, is called a revetment.

The simplest revetment is sod or turf, and when there is time it should always be placed in those slopes that have but little fall. Sods for revetments are eighteen inches long and ten inches wide and four and one-half thick; they should never be laid wet. The principal kinds of materials which are used in making revetments are barrels, timbers, casks and planks, gabions, fascines, hurdles, sand-bags, etc. When timber is used in making revetments, one of the methods employed is to cut logs and timbers into short lengths, about five feet, and from four to six inches in diameter, and driving them into the ground, giving them the proper slope, and putting them in contact with each other; they are driven in a sufficient distance to leave just space enough for a capping piece about six inches in diameter to be laid on top of them, and to reach just to the crest of the parapet; the capping piece is securely anchored by a notched log buried in the parapet, and connected by cross ties; each upright is securely spiked to the capping piece [10, Fig. 28]. Another method consists in piling logs on top of each other the necessary height and slope and securing them by uprights driven into the ground, and nailed at the top to a capping piece which is held by means of scantling driven firmly in the earth, or the plank may be laid horizontally and nailed to the scantling.

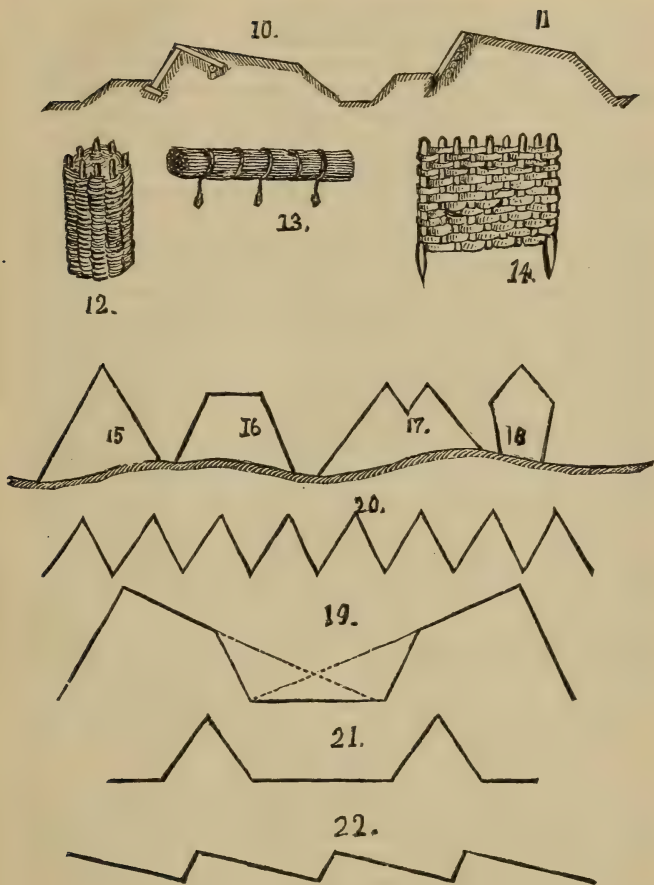


FIG. 28.

Timber, and especially planking, forms the best of all revetments for field works on account of facility of handling and durability. Whenever it can be procured and spared, it should be used in preference to other materials.

A *gabion* is a cylinder made of basket work; it is about two feet in diameter, and three feet high [see 12]. Gabions are made as follows: A circular piece of wood two feet in diameter is laid on the ground and pickets three and one-half feet long are driven closely around it in the ground, the *form*, as the circular piece of wood is called, is then raised one foot from the ground and a rope passed under it around the pickets and bound tightly; brush-wood one-half inch in diameter, and stripped of all branches and leaves, is then woven in and around the pickets in a basket form; the brushes being kept pressed down tightly, the top and bottom withes are secured by thread, string, or fine withes. Gabions are used in interior slopes. Gabions are principally used in trenches, especially in gun-pits; they are set up on fascines and filled with earth; two men can make a gabion in one and one-half hours.

A *Fascine* is a bundle of brush-wood made into cylindrical form and banded together with cords, or withes, or wire. Fascines are from nine to twelve inches in diameter and from twelve to eighteen feet long, and are made as follows: Trestles are made about four feet apart and on these the brush is laid, stripped of leaves and twigs; when sufficient brush is laid [see 13], the bundle is bound tightly together with cords or withes passed around and tied; these bands are about six inches apart and every third or fourth band is made to project, forming a small loop; this loop is to pass over a stake driven into the parapet to hold it. [A *fascine* can be made by five men in one hour; they weigh about one hundred and forty-five pounds.] Fascines are used in revetments as follows: A row is partly embedded in the earth so that only half its thickness is above; pickets are driven through it to hold it firmly in place, and then other fascines are placed on top of it, having the proper slope. They are held in place by pickets driven through the projecting loops.

A *Hurdle* is a basket work similar to the gabion, except, instead of being cylindrical in form, it is flat or only slightly curved. It is about two feet nine inches in height. When used in revetments it is made continuous [see 14], the pickets are driven into the ground with the proper slope and held in place by anchoring pickets. Barrels and casks are used in a similar way to that in which gabions are used; the heads are knocked out, and the barrels filled with earth or sand. Sand-bags are made of canvas or gunny cloth sewed with cotton twine; they are two feet and three inches wide when empty and flat (when used they are filled up about three-fourths with earth or sand, and tied securely at the top), when filled they weigh about seventy-five pounds. They are laid in the following manner in revetments: In each course the bags are laid alternately with the side and head to the front; the next course given the proper inclination, is laid so as to break joints with the first. Sods are also used for revetments of interior slopes; the sods are cut the size given previously, and laid with the grass side downwards, in courses, breaking joints in the different courses; the courses are connected by wooden pins about twelve inches long, driven through each alternate course. Brick, clay, stone and other material are used for revetments also, but they are not as practicable generally as those given. Field works may be built so as to enable the defenders to make a defence in only one direction, the front, or in three directions, the front and both sides, or on all sides. According to the manner in which the work is built, it is named.

Field Works.

A *Redan* consists of a work with two sides, making an angle which is pointed towards the enemy (see 15). The sides of a redan are from thirty to sixty yards in length. When less than thirty yards the work is called a *Fleche*. If the work be made with a front side (see 16) it is called a *blunted redan*. When the redans are joined to each other they form a *double redan*, and if the outer faces of the double redan are longer than the con-

nected faces, they make a *priest cap* or *swallow tail* (see 17).

A *Lunette* (see 18) is a work similar to a redan, but having its sides bent midway in, so as to nearly enclose the work.

A *Bastion Front* consists of a straight line having at each extremity a lunette (see 19). The lunettes in this case are called *bastions*, and the line joining them is called a *bastion curtain*; the angles *A* and *A* are salient angles, and *B* and *B* re-entrant angles. A bastioned fort consists of a work enclosed on all sides by bastioned fronts.

Field Lines.

When it is desired to enclose a large area with fortifications the works are then known as *field lines*. They have different names, as *continued lines*, *lines with intervals*, and *lines of countervallation, intrenched camps*, etc. When the line is continuous around the entire position, it is a *continued line*. The principal kinds of the continued lines are: 1st. The *Tennaille* line (see 20), the alternate angles being salient and re-entrant; the salient angles must never be less than ninety degrees, nor more than one hundred and twenty degrees. 2d. The *redan* lines, which consist of a series of redans placed at intervals along, and connected by straight lines (see 21.) 3d. Indented or *cremaillere* lines, as shown by 22. 4th. A *bastioned line*, formed of a series of bastioned fronts (see 23). 5th. A straight line of parapet. After the fort or fortification is built, the space in front of it is filled with various obstacles which prevent the enemy's easy access to the fort, but which do not interfere with the view or fire of the defenders. The principal obstacles are *abattis*, *chevaux-de-frise*, *entanglements*, *crows-feet*, *stockades*, *fraise*, *trois-de-loups*, and *fougasses*.

Obstacles.

An *Abattis* consists of trees felled towards the enemy. The ends of the large branches are sharpened, and small ones cut off, and the butts of the trunks are then fastened

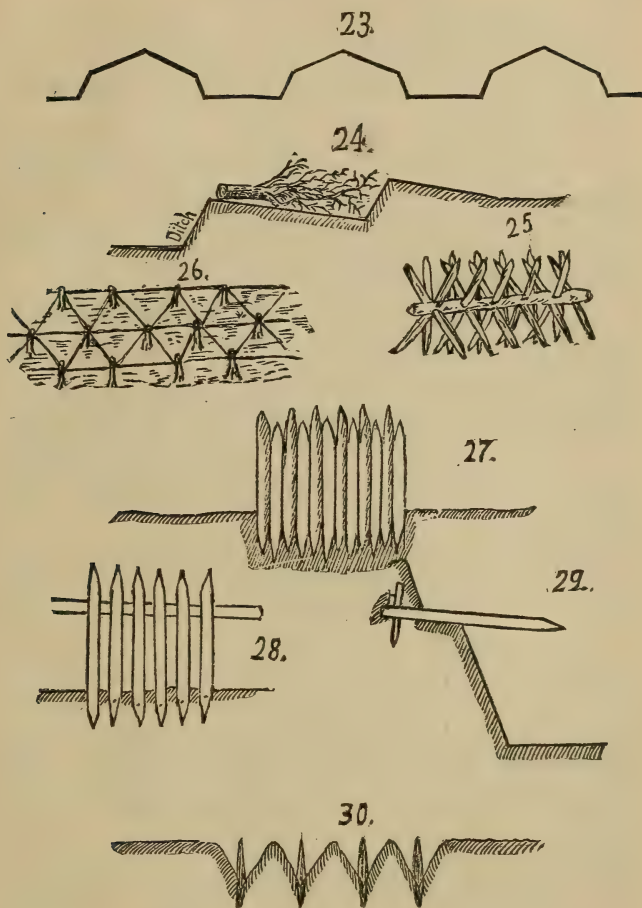


FIG. 29.

by pickets and stakes to the ground. They are protected by a trench from artillery fire (see 24, Fig. 29).

A *Chevaux-de-frise* is a log or large branch bored through, and sharp poles running through the holes in alternate directions (see 25).

An *Entanglement* can be made of felled trees. The trees should be felled towards the *enemy*, and there should be at least four rows; the branches are then stripped of small twigs and sharpened. Ten men can fell four rows of small pines in six hours, along one hundred yards; and the same of hard wood along thirty-six yards.

Entanglements are also made by driving stakes about six or seven feet apart, in rows, and connecting them by wires twisted around each one; the pickets are in three rows, and the wire, which should be strong, and of the weight of at least fifteen pounds to the hundred yards, is twisted from stake to stake in each row, and from stake to stake in different rows, and about one foot above the ground (see 26). It will require about nine hundred yards of wire and twenty pickets, to make an entanglement of fifty yards long and ten yards wide.

Crow's-feet are obstacles made of iron, with four points so arranged that however placed, one of the points is always up; a number of them are scattered on the ground to form an obstacle.

A *Stockade* is formed by planting stout timbers or logs ten to fifteen feet long by six to fourteen inches in diameter, in two rows firmly in the ground; the outer row of logs are three or four inches apart, and the second row is placed about three inches behind the first so as to cover the intervals in the first row. When an artillery fire is brought to bear against the defense, the stockade forms a substitute for the parapet. [See 27.]

A *Palisade* is a stake 10' long and 8" diameter, sharpened at the top; when used as an obstacle, a fence is made of palisades by driving the pickets firmly in the ground, leaving intervals of about 3" between them. A cross-bar is nailed at the top to hold them together. [See 28.]

A *Fraise* is a palisading in a horizontal position. [See 29.]

Trois-de-loup or *Military Pits* are pits dug in the ground about 6' deep and the same in diameter at the top, and 1' to 18" diameter at the bottom; a sharp stake is placed in the bottom, the pits are placed in rows at least three in number, so that their centres shall be 10' apart; they are then covered with brush and a thin layer of earth. *Trois-de-loups* are generally placed in the ditch or a few yards beyond it. [See Fig. 30.]

Torpedoes are shells loaded with explosives, projectiles, etc., and so arranged that they are exploded by pressure, or by electricity; they are placed just beyond the fort and concealed in the ground; the explosives are generally gun-cotton, nitro-glycerine, or gunpowder.

A *Fougasse* consists of a funnel-shaped hole dug in the earth just beyond the ditch; at the bottom of the hole is placed a charge of powder, and on top of this is a pile of stones or small projectiles; a fuse projects just above the earth; it is connected with the charge, and is lighted by the defence at option.

Obstacles should never be placed beyond close musketry fire of the defence, for although they may stop for a while an enemy, they can be overcome. They should never be arranged so as to give an enemy shelter, should never be exposed to his artillery fire, and should never interfere with the free movements of the defence.

Attack and Defence of Field Fortifications.

The first thing to be attended to in the attack is to reconnoitre the position or positions to be attacked, with a view of determining their nature, the strength of the garrison, its number of guns, the general spirit animating the defence, the locality of obstacles, and the points of the position which are key-points, or whose possession is necessary to make the attack of value.

From the knowledge gleaned from various sources, the commander of the attacking force determines his method of attack; he makes it in one of these ways:

- 1st. An open assault.
- 2d. A secret assault.
- 3d. By a regular siege.

OPEN ASSAULT.

The attacking party is always superior in strength to the defense. If the commander determines upon an open assault, he first locates positions for his artillery; these positions should be chosen with reference to bringing a greater fire to *bear* on the works, than can be returned by the defense, towards destroying the works, and towards destroying the obstacles, and thus opening a passage for the assaulting parties; his artillery is then sheltered as much as possible from the fire of the defence, and on the supposition that the attacking party is superior, the artillery fire is sure of silencing that of the fort. The attacking party also post sharpshooters wherever they can with advantage creep up towards the works and pick off any or all men who show themselves. The artillery fire of the defence silenced, the obstacles are destroyed. It is not as a rule, possible to destroy the works by a heavy cannonading alone, unless the fire is exceedingly heavy. When this can be done, an assault should not be resorted to, for the enemy is bound to surrender if his works are destroyed; but as a rule, the works are built so as to shelter the defence against any artillery fire. The silencing of the artillery of the defence, and the picking off of his men by the sharpshooters, is apt to demoralize him, and now is the time to make an assault. The assaulting forces have been put in readiness some time before the cessation of the artillery fire, the points to be attacked are selected and made known, and preceded by a line of skirmishers, the infantry in extended order, followed by supports, rush forward, the skirmishers take advantage of every inequality of the ground, and pick off men operating the machine guns in the works; they keep up a continuous fire, and the attacking party, if necessary, play their artillery; the engineers go, just in front of the infantry, and as they are close to the fort they rush forward and proceed with the work of demolition as explained elsewhere. The infantry rush forward closely followed by their support, and a hand-to-hand conflict ensues, if the defenders still hold out; but the attacking party being superior in numbers, the fort is

always lost, if they gain the inner works. The defence may retire to some citadel, block-house, or inside work. In this case the guns of the outer works should be turned upon them by the assault.

SECRET ASSAULT.

If the assault is to be secret, the artillery fire is kept up as before, but the troops making the assault are kept in ignorance of the time they are to make it, and the selected points, till the last minute.

ATTACK BY SIEGE.

When the work is too strong and well defended to carry by assault, the attacking party resorts to the method known as *siege operations*. Siege operations are carried on by the attacking party advancing slowly towards the defence, and building shelter or counter works as it advances. The siege is a matter of so much technical detail that it cannot well be explained in a volume of this nature. It is carried on under the direction of engineer officers, whose education fits them for these important duties.

Defence.

The first essential of the defence is vigilance. A history of assaults on works vigorously defended shows them to be generally unsuccessful, for, though an enemy may succeed by mere force of numbers in carrying a work, yet if prepared, the defence can inflict such terrible loss on him that his victory is worthless.

A field work to be thoroughly prepared for active defence must have the full number of men, both Artillery and Infantry. The men should be all well trained in their duties; they should know all the points of the fort, and where to go and what to do at each step of the attack. The works should be provisioned for the full garrison for a long time; there should be plenty of water in the fort for drinking purposes and to extinguish fires. The water supply should be so arranged that it cannot be cut off by the enemy. There should be in the fort every means and appliance that could be wanted while undergoing a regular

siege. There should be an abundant supply of picks, shovels, axes, saws, augers, hammers, etc., also of timber, gabions, fascines, sand bags, nails and spikes. The garrison should be thoroughly drilled in the use of the different tools and implements, and know how to best use them under any circumstances. The ammunition supply must be large enough to enable the defenders to throw a heavy fire on the besiegers for months, if necessary. All houses, trees, etc., should be removed from the vicinity of the fort within a radius of one thousand yards, in the enemy's direction, so that the view may be uninterrupted. All officers should see that their subordinates are all carefully trained and zealous in their duties. The bomb-proofs and shelters for the garrison, and the magazines, should be secure against rain as well as against the enemy's fire. When an attack is expected, torpedoes, fougasses, etc., should be placed on the glacis and just outside the ditch. Ammunition is prepared and brought out ready for use, also hand-grenades, etc. At all times communication between the different parts of the works is kept free and unimpeded. Sentinels are kept on guard at all times, and in general, vigilance is impressed upon all as the greatest reliance of the garrison. If the commander is brave, untiring and vigilant, he will impress the same on his troops, and working in harmony, the works will be secure against assault.

Demolition.

When an attacking party assails a fortified work, that branch of the engineers called sappers and miners are entrusted with the work of demolishing the obstacles that prevent the attack from getting into the fort. The artillery has previously destroyed a great deal, but there are some obstacles that it is hard for the artillery to reach, as the palisading, etc., which is generally placed inside the ditch. The engineers explode the torpedoes, mines, fougasses, etc., by means of counter-mines, digging around the fougasses, and exploding them by charges of gun-powder, extinguishing the fuses, cutting electric wires, etc., etc.

1. A stockade is demolished by placing a bag of gun cotton at its foot, and exploding it. It will require an average of three and one-half pounds of gun cotton to each running foot of stockade, where the stockade is a strong one; also by placing a barrel of gunpowder, half-full, against the uprights, and covering the barrel with rocks, and exploding it.

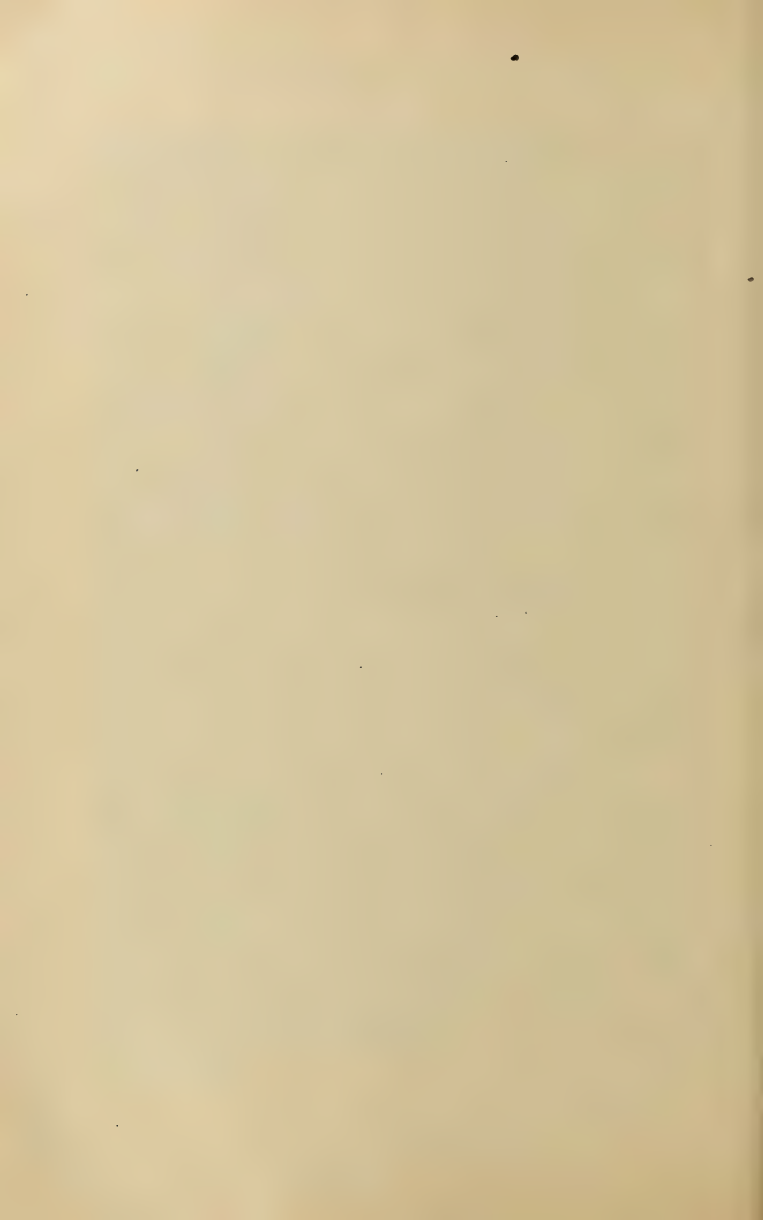
2. A gate is blown in or down by placing bags containing altogether two hundred pounds of gunpowder or eighty pounds of gun cotton, and tamping or covering them by sand bags and then exploding them. To *explode an ordinary gate or door*, suspend a bag of forty pounds of gunpowder to the centre of the gate or door from a gimlet or nail driven therein; also with dynamite cartridges.

A wall of masonry two feet thick is overturned or demolished by placing bags of gun cotton, about four pounds to each running foot of wall, and tamping them with sand bags.

To demolish a large portion of the works, a magazine or mine is dug, and filled with powder, and then is heavily tamped, and exploded with fuse. Chevaux-de-frise, abat-tis, etc., are destroyed with axes, saws, hatchets, etc.

To destroy bridges, piers and abutments, have mines or holes cut into them. These are filled with gunpowder or gun-cotton, and fired by fuses. Wooden bridges may be burned when there is time. Canals are destroyed by blowing down the embankments in places, or by bursting the locks. Railroads are destroyed by taking up the rails, and putting them in a big fire; when hot, twisting them. To twist them, an instrument is used at one end of a rail, and a similar one at the other end, but on the other side of the rail. By means of a powerful lever on each instrument, a twist is given by two men to the rail that totally unfits it for use.

The use of dynamite as a destructive agent is given in another chapter.



CHAPTER XV.

**ART OF WAR—GENERAL DEFINITIONS; BATTLES;
COMBATS.**

ATTACK AND DEFENCE OF POSITIONS, ETC., ETC.

ART AND SCIENCE OF WAR.

War is a contest between nations or states or parts of states, carried on by force. Wars are classified first, from the nature of the contest, as *offensive* or *defensive*; and second, from the end to be obtained or the causes producing the war, or the locality of the war. Under this second head come wars of conquest, of insurrection, of religion, etc. Any war is an *offensive war*, when its object is the attack of an enemy; and a *defensive war*, when its object is to resist the attack of an enemy.

The *Art of War* is divided into four grand branches: 1. Strategy; 2. Tactics; 3. Engineering; 4. Logistics. Jomini adds to these the two classes of—1. Statesmanship, as related to war; 2. Minor Tactics. *Strategy* consists in the science of moving large masses of troops so as to successfully attain the ends of their commander. *Tactics* is the art of handling troops so as to execute the designs of strategy. *Engineering* is the science of strengthening positions or demolishing an enemy's position.* *Logistics* is the science of transporting and supplying armies. The end or object of strategy is to obtain such an advantage over the enemy by concentrating at any desired place a superior force to his, or by gaining any desired position, as will force him to change his position and plans, or in case of conflict, defeat him. A *corps* is considered as the strategical unit. The line or route followed by an army in attaining any end is called its line of *operation*. There may be employed several armies and the end be a common one. The country in which they operate is called the *theatre of operations*. The place from which an army starts in commencing its operations, and from whence

* See Military Engineering, Chapter XIV.

it draws its supplies, is called its *base of operations*. The point it aims to reach in its operations is termed the *strategic* or *objective point*, and the line followed in reaching the objective, its *line of operations*. The *base* of operations is a strong point adjoining the country in which the army is to move, though the selection of a base will depend greatly on the plan of campaign. In an offensive war the base should never be confined to a single point, for if that point was taken by the enemy, it would cause great disaster to the army. It is best to take several points along a line as a base, and the longer the line, the greater advantage it possesses. A long base gives a greater number of places to fall back upon. A broad, deep river is considered the best kind of a base, if it have both sides fortified.

Bases are termed *straight*, *angular*, or *curved*, according to their general outlines; they are represented in Fig. 30,-1, 2, 3, 4, 5. The supplies for the campaign are collected at different points of the base, and as the army advances, other bases are established in front of the first line, in order that the army may not be "*tied to its base.*"

These bases are called *secondary bases* and are kept supplied with necessary stores from the *primary base* of operations. Wherever these secondary bases are established there should be troops left to guard them and prevent the enemy seizing them.

When war is defensive in its character, a single strong point should constitute a base, as the capital of the country, or some large and important fortress. *Lines of operations* may be "*single,*" "*double,*" or "*multiple,*" according to the routes taken in assuming the offensive. A single line of operations does not mean a single road, but all the roads and means which may be utilized to concentrate the army at a given strategic point.

If the *line or lines of operations* are within the enemy's line of operation, they are termed "*exterior lines.*" When the different lines start from different points of the base, or from different bases, and move towards a common point, they are termed "*convergent lines;*" if they continue to separate they are called "*divergent lines.*" When

an army is in retreat the route taken is called the "*line of retreat*." This may be *single*, *double*, or *multiple*.

All lines communicating any or different parts of an army or armies with the bases of supply are termed *lines of communication*.

Objective points are generally termed *strategic points*. They are the points whose possession is essential to the success of the campaign or war.

The capital of a country, cities, and fortresses where large military supplies are stored, a junction of navigable rivers which lead to the theatre of war, junctions of important railroads—these are all objective or strategic points. The method according to which the war is to be prosecuted in a certain time is called the "*plan of campaign*," the certain time being the "*campaign*." In forming the plan the General selects his theatre of operation first, then the objective point, then the base, and lastly the line of operations.

Battles—Attack and Defence.

Positions.—The ground which is occupied, or it is desirable to occupy by troops is designated a "*position*." *Defensive*.—The advantages to be sought for in a good defensive position are: 1st. It must be sufficient in extent for the number of troops to occupy it, while the features of the ground should at the same time be such as to conceal the defenders as much as possible, and give them command of the enemy; and, while it presents many obstacles to the near approach of the enemy, it must have a free defence. The flanks of the position should rest on safe points, and the position should have a sufficient number, and safe lines of retreat. If the position is an offensive one, in addition to the above, it should have ample means of egress or assault for all arms of service.

Whenever an army, entire, engages in strife with the enemy it is termed a "*battle*." When the contest is a partial one, it is a "*combat*." *Battles* are called *offensive*, *defensive* and *mixed*, according to the nature of the strife. Every battle should have for its object some decisive or objective

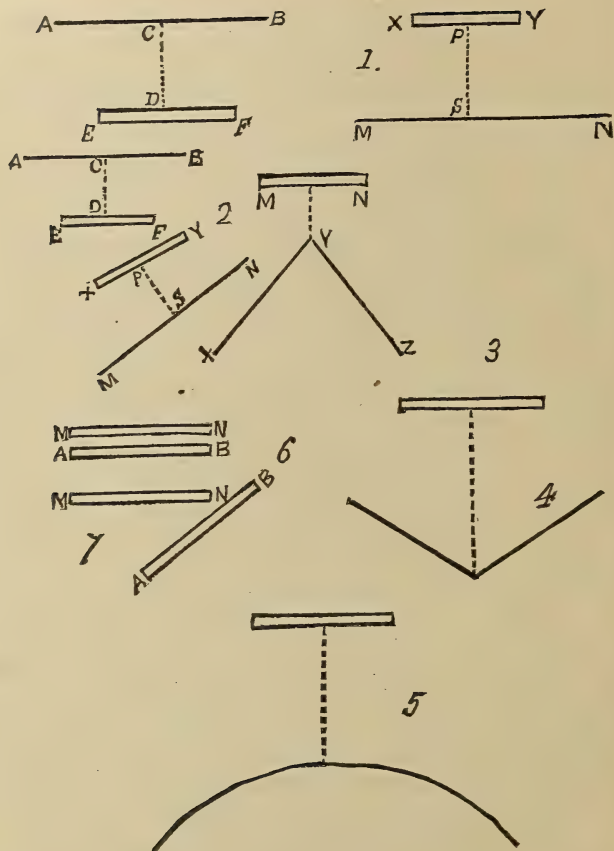


FIG. 30.

point. Often, however, a commander is forced by circumstances to give battle when he does not wish to. The aim of strategy is to decide by battle, in which the commander has advantage—either in position or number—the campaign or war. Therefore, when a commander decides to attack, he first makes his disposition of troops and arms of service for the battle. The enemy does the same, and the order in which the armies fight is then called the “*order of battle*.” The order of battle may be either *parallel*, *oblique*, *concave* or *convex*. It is called *parallel*, when the lines of the two armies are parallel to each other, and attack each other equally throughout their lines (see Fig. 6). It is *oblique* when one army lies either wholly or partially oblique to the other (see Fig. 7). Whenever a part of the line of either army is drawn back it is called *refused*, and when advanced it is termed *thrown forward*. The extremities of the line are called right and left flanks respectively; the central portion is termed the centre, and to the right and left of the centre are called right and left wings respectively. The order of battle is *concave* when the attack is made by the wings at the same time and the centre is refused. It is *convex* when the wings are refused and the attack is made by the centre.

Circumstances will always make the particular form of order of battle employed. When a general resolves to attack, he first ascertains by spies and reconnoissances, the position and strength of the enemy, also that point wherein he is apt to be the weakest; then, according to the nature of the ground, he makes his disposition so as to attack the enemy in his weakest point. He concentrates his greatest strength on this point, and conceals the fact of his doing so by feigned attacks at other points. On the supposition that he is superior in numbers or position to the enemy, he can always engage throughout his entire line if necessary, and thus prevent him from strengthening his weak point. Skirmishers are thrown forward at a distance of two thousand to three thousand yards from the enemy. The skirmishers are formed in three lines, the second and third lines being called *supports and reserves*, respectively.

These lines are from one hundred to two hundred and two hundred to four hundred yards in rear of each other. The skirmishers advance steadily until within accurate range, when they advance by short rushes. The artillery is posted on knolls and gentle hills, and keeps up a steady fire on the enemy during the advance of the skirmishers. The main body of infantry is formed at a safe distance outside the enemy's range and follows steadily the lines of skirmishers; and, as it approaches the battle lines, or within range, it also forms skirmish lines.

In modern warfare the range and accuracy of all arms is so powerful and true, that each man must be taught to advance by rushes, and shelter himself wherever he can. When within good range, each individual soldier should fire without command; he must take careful aim and fire as often as he can. If an actual attack is to be made, a distinct object is given out, the body making the attack creeps up to the first line of skirmishers, and then rushes at double time until the position is gained. Here it must defend itself until supports arrive, and the skirmishers and supports push forward all along the line. The artillery should be posted in the salient and re-entering angles of the line, and direct its fire on masses of the enemy, infantry and cavalry, so as to throw them into confusion. No infantry or cavalry should be posted in the rear, unless sheltered. An oblique or enfilading fire should be poured into the enemy's line whenever possible. Whenever the enemy uses his artillery, a greater number of guns than he has should be brought to bear on that point in order to silence him. The line of infantry is supported by a second and third line if necessary, and reserves are kept out of close range, and in close formation. Cavalry is posted with reserves and on the wings. Engineer troops are posted with the reserves in an offensive battle. No fixed rules can be laid down for any battle beforehand; everything is determined by the circumstances of each particular case. If the enemy be occupying a position, it is necessary to obtain the *key point* of the *position* by driving him away from it. He may be outflanked, and if possible, a

General will always try to get in rear or on the flanks of an enemy, if by so doing he does not weaken his own line too much. An army on the defensive should choose a ridge or elevated line with a slope in front. The highest ground, and all sheltered angles, should be posted with artillery. In front of the position, for a distance of two hundred to four hundred yards, there should be placed obstacles and entanglements. The flanks should rest on positions that cannot be turned, such as a river side, a marsh, etc. Whenever this is not possible, they should be strengthened to prevent their being turned. Reserves should be posted under cover, but close enough to render assistance. Especially necessary is it that the lines of retreat and communication be kept open and well guarded.

CHAPTER XVI.

INTERNATIONAL COURTESIES.

COURTESIES GENERALLY.



INTERNATIONAL COURTESIES.

Foreign envoys or ministers officially visiting posts or stations are saluted with *fifteen* guns; ministers resident accredited to the United States, *thirteen* guns; charges d' affaires, *eleven* guns; consuls general accredited to the United States, *nine* guns. A Sovereign or Chief Magistrate of any foreign country receives the salute prescribed for the President; members of a royal family receive the salute due to their sovereign; officers of foreign services visiting any post or station are saluted according to rank; the salute of a National flag is *twenty-one* guns.

It is the custom of foreign ships of war, on entering a harbor, or in passing in the vicinity of a fortification, to hoist at the fore the flag of the country in whose waters they are, and to salute it. On the completion of the salute to the flag, a salute of *twenty-one* guns is to be promptly returned by the nearest fort or battery. If there be several forts or batteries in sight, or within six miles of each other, the principal one only will return the salute to the flag in United States waters only where there is no fort or battery to do so.

When a civil functionary entitled to a salute arrives at a military post, the commanding officer meets or calls upon him as soon as practicable. The commanding officer will tender him a review, provided the garrison of the place is not less than four batteries of artillery, or their equivalent of other troops.

The interchange of official compliments and visits between foreign military or naval officers and the authorities of a military post are international in character. In all cases it is the duty of the commandant of a military post, without regard to rank, to send a suitable officer to extend civilities and assistance to a vessel of war (foreign or otherwise) recently arrived. After such offer it is the

duty of the commanding officer of the vessel to send a suitable officer to acknowledge such civilities, and request that a time be specified for his reception by the commanding officer of the post. The commanding officer of a military post, after the usual offer of civilities, is always to receive the first visit without regard to rank. The return visit is made the following day, or as soon thereafter as practicable.—*Tidball's Man. of Heavy Art'y.*

When a military commander officially visits a vessel of war, he gives notice of his visit to the vessel previously thereto, or sends an officer to the gangway to announce his presence, if such notice has not been given. He is then received at the gangway by the commander of the vessel with whom it is his duty to communicate. A vessel of war is approached and boarded by commissioned officers by the starboard side and gangway, when there are gangways on each side. In entering a boat, the *junior* goes first, and other officers according to rank; in leaving a boat, the *senior* goes first. The latter is to acknowledge salutes which are given at the gangway of naval vessels. Naval vessels fire personal salutes to officers entitled to them when the boat containing the officer to be saluted has cleared the ship. It is an acknowledgment for his boat to "lie on her oars" from the first until the last gun of the salute, and for the officer saluted to uncover, then at the conclusion to "give way." The exchange of official visits between the commanding officers of a port and vessel opens the door to both official and social courtesies among the other officers.—*Tidball's Man. of Heavy Artil.*

Courtesies Generally.

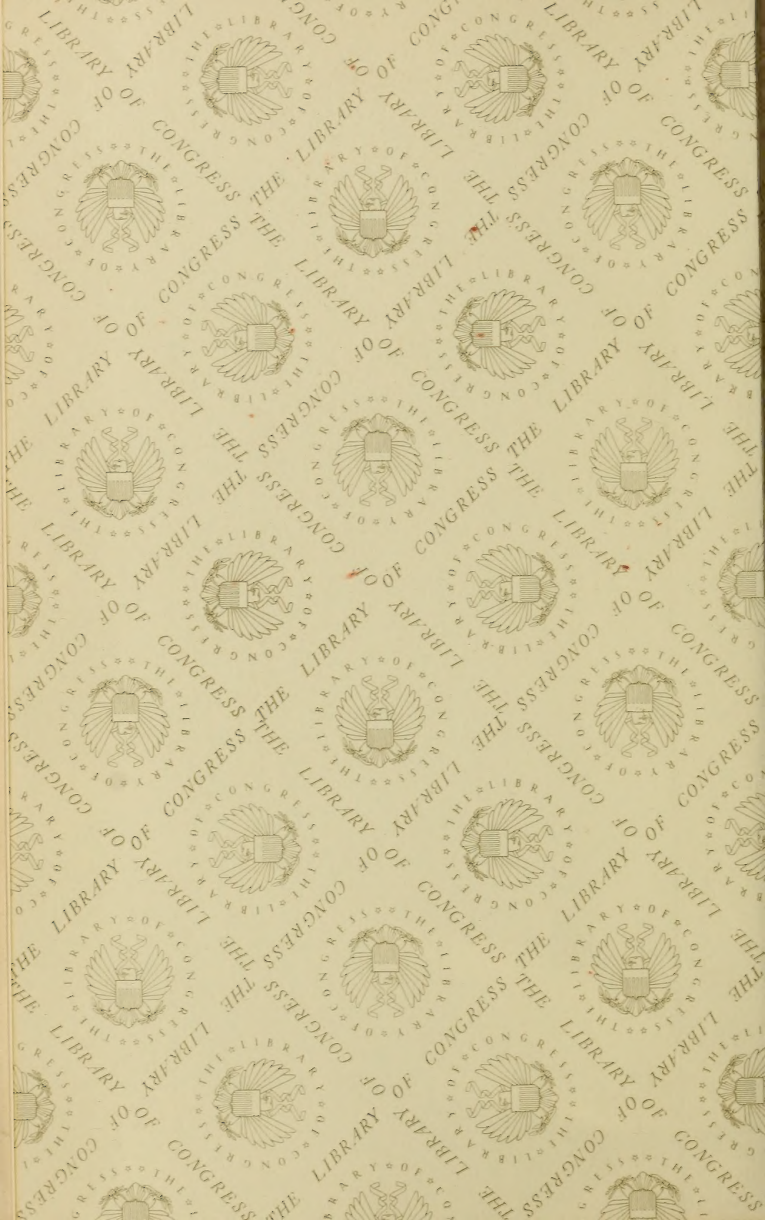
1. Courtesy among military men is indispensable to discipline. A junior officer should always tender the first salutation on meeting a senior. Young officers too frequently omit this, thinking that the requirement is only intended when *on duty*. A junior should never address a superior other than by his title. There are exceptions, however, to this (when off duty), among those who have served a long time together, or those who have been class-

mates ; but on duty, no matter what familiarity exists at other times, the title should always be given in addressing an officer.

2. Upon the arrival of an officer at a post for duty, whether reporting for the first time, or returning from detached service or a leave of absence, he should proceed to report to the commanding officer of the post or station, whether he be at his office or residence. The officer reporting should not even wait to change his dress or make a toilet. This, of course, applies to the period of time between ordinary office hours in the morning and tattoo, unless an emergency exists, in which case he reports at once, whether in the field or in garrison.

3. It is customary throughout the Army, when not on duty, to speak to and of all lieutenants as Mr. So-and-so ; but when on duty, and particularly with troops, the title of lieutenant should precede the name of the officer. Sometimes, when off duty, older officers have a pleasant way of addressing their juniors as Brown, Smith, etc., but this does not give to the junior the privilege of calling his seniors by any other than their proper titles. A certain amount of familiarity is necessary in social intercourse, and young officers are apt to overstep the bounds in this respect when their superiors, in order to make life harmonious in garrisons, adapt themselves to the amusements engaged in by the young people, or address the juniors by their surnames.

4. Non-commissioned officers should always be addressed by their titles, by both officers and enlisted men, and privates are addressed as Brown, Jones or Robinson, and not as Bill, Tom or Charlie.





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